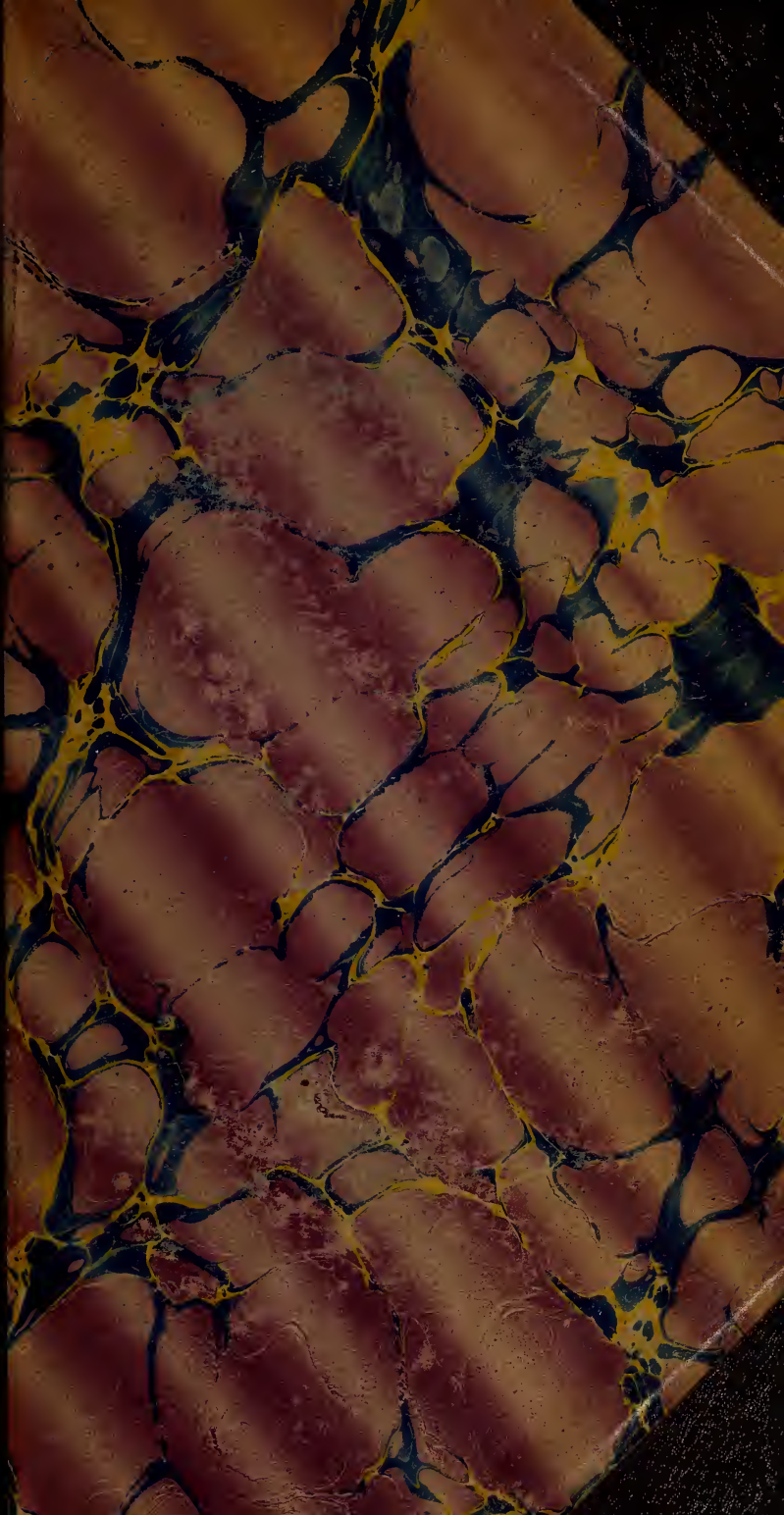




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THE  
JOURNAL  
OF  
The British Dental Association,  
A  
MONTHLY REVIEW OF DENTAL SURGERY.

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*EDITED BY*

ALFRED COLEMAN, F.R.C.S., L.D.S., &c.  
JOSEPH WALKER, M.D., M.R.C.S., L.D.S.

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THE JOURNAL  
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BRITISH DENTAL ASSOCIATION  
A  
*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. I.

JANUARY, 1881.

VOL. II.

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THIS period of the year finds our merchants and the trading community in general, engaged in the anxious process of ascertaining the profits or the contrary on the past twelve months, and we fear, in far too many instances, the balance will be found on the wrong side. The commercial depression which has now existed for so many years has probably affected the last almost as greatly as any of its predecessors. We, like the above, may also with advantage look back upon our past year—a year consisting, however, of but ten months—and see if we can produce a balance sheet that may enable us to conclude that our work as Editors has been fraught with profit.

In January last the MONTHLY REVIEW OF DENTAL SURGERY became the property of the British Dental Association, and, in March following, the first number under their own editorship was issued. How far these efforts have, in supplying the profession with a scientific periodical, been successful, must be left to the judgment of others, but that the journal has afforded the means of a greater facility for intercommunication between the Executive and the Members will, no doubt, be readily

conceded. The work has not been carried on without difficulties and anxieties, and it may be well that, in regard to some of these, our readers should be taken into our confidence. It has been necessary, on the grounds of expense, to keep the size of each number within a certain limit, and this has necessitated our selecting from out of a large correspondence, communications, the qualification for which was not mere fitness for our pages, but as being the most fitted for the same. To certain correspondents this, no doubt, has been discouraging, especially as they have but accepted our own invitation for contributions, but a still greater difficulty of a similar nature now awaits us: Branch Associations are springing up, and to their proceedings we must do more than merely give publicity. We trust, however, their Members will see our position, and bear in mind how utterly impossible it will be for us at all times to publish, *verbatim*, the speeches, papers, and discussions, which occur at their various meetings; and, whilst seeing our position, they will remember the fact that with the increase of the number of Members, the limits of the journal can be extended, and the more frequently it can make its appearance until, let us hope, it will eventually be issued as a weekly periodical.

In attempting to carry out any new undertaking some indulgence must be claimed on behalf of its managers. A newly opened railway usually commences with a series of accidents, due, not to the condition of the line or rolling stock, which are new and good, but rather to a want of mutual understanding of detail amongst the officials. We plead guilty to a heavy share of such liabilities, and for them must ask the forbearance of our readers, hoping we can promise that as our traffic increases the security against accidents will be greater.

To be punctual in our issue has been, and will be, one of



our principal endeavours, but on a few occasions the journal has been delayed, to enable us to include information for which our readers would have regretted to wait a month.

A steadfast care has been exercised by the publishing committee to exclude anything that might appear to partake of a personal or a too strong party character. Articles or communications of such a nature do not, as a rule, render a publication which contains them to be less read, and a severe contest on paper, whatever the non-combatants may think of the good taste of those engaged in it, or suitability of the battle-field, has much the same effect as a street fight in a crowded thoroughfare; they both for a time attract attention, notwithstanding that the lookers-on, may, when it is over, exclaim, "how disgraceful!"

To the judgment and prudence of our Treasurer must be mainly attributed the circumstance that in a pecuniary point of view the journal undertaking has in no way proved unsuccessful, which permits us in this, the first issue of a new year, to print a larger number of pages; soon we hope this to be the rule and not the exception, and this will enable us to do greater justice to those to whom our thanks are so especially due, viz., our contributors.

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### Dental Education.

THE production of a scheme of Dental education and examination, under the authority of the Dentists' Act, was delegated by the Medical Council to a Committee of its own Members, consisting of Sir James Paget, Dr. Andrew Wood, Dr. Scott Orr, and Mr. Macnamara, the several representatives on the Council of the Surgical corporations which grant Dental Licenses. The curriculum proposed by the Committee and adopted



by the Council, is almost the counterpart of that which has been used for some years past by the College of Surgeons, under the Dental Charter, and fulfils the conditions successfully urged upon the Royal College of Surgeons of England by the Odontological Society in 1857, in the following terms:—"The memorialists do not suggest an education and examination *inferior* to that required of the Medical Practitioners, but propose a certain difference in *kind*, not a difference in degree, an education specially adapted to the requirements of the Dental Surgeon, as distinguished from that fitted for the general surgeon."

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### Ethidene-Dichloride as an Anæsthetic.

A VERY interesting and instructive report on the action of anæsthetics has recently appeared at the hands of a Committee appointed to investigate this matter. From their experiments we gather that, in regard to danger, ethidene-dichloride holds a place intermediate between chloroform and ether, that is, it is less dangerous than the first, but probably more dangerous than the second. The question, therefore, resolves itself into the following: Are the advantages of ethidene-dichloride over ether sufficiently great to lead us to employ it in preference to the latter? There can be no doubt but that its flavour is far more agreeable, and far less persistent than is that of ether; and, moreover, it can be administered efficiently by simpler and less expensive apparatus, for we maintain that to administer ether by any other than the Clover method—*i.e.*, by commencing with nitrous oxide—is a direct injustice to the patient, both in regard to his comfort and his safety. That which is pointed out by the committee as a disadvantage of ether, *viz.*, of "needing to be given in large quantities and for a considerable time," can hardly

be said to exist. The report goes on to say, "ethidene-dichloride has no such disadvantages, and it may be given with the same feeling of security as attends the administration of ether." Surely the latter portion of this statement should be accepted with some qualification, at least until we have had the experience of several thousand administrations, and which experience, we consider, should be obtained only at the hands of those the best versed in the administration of anæsthetics. We do not consider the question should in any way be prejudiced by the fact that one death has already happened under the anæsthetic now attracting attention; such might occur with the very safest we possess, and, unfortunately, at the beginning instead of at the end of a chapter.

The work of the British Medical Association Committee we consider most valuable, and deserving the best thanks of all who in any way rely on anæsthetics for their own comfort or that of others. To the Dental Surgeon, if sufficiently safe, ethidene-dichloride will prove an inestimable boon, prolonging the short anæsthesia of nitrous oxide, and relieving him and his surroundings from the penetrating and persistent odour of ether. We admit having entertained some prejudice against it, in witnessing administrations eight or nine months ago; it appeared to excite a large amount of muscular rigidity at the time, with much depression, headache, nausea and vomiting, subsequently. Latterly we have not witnessed these effects, and as we saw it administered on Friday last (7th inst.) for dental cases, in combination with nitrous oxide, by Mr. Mills, at St. Bartholomew's, it appeared all that could be desired, both as regards the anæsthesia and the recovery from it. The following record of six administrations in unselected cases taken seriatim, may be of interest:—

Period of inhalation.				Period of unconsciousness to pain.		
No. 1	Male adult,	60 seconds	...	...	65 seconds.	
„ 2	Female adult,	60 seconds	...	...	60	„
„ 3	Ditto	40 „	...	...	50	„
„ 4	Ditto	95 „	...	...	105	„
„ 5	Ditto	80 „	...	...	95	„
„ 6	Ditto	80 „	...	...	75	„

The quantity of the agent employed in the above six cases was rather less than four drachms.

Mr. Mills considers that ethidene-dichloride requires more careful watching than ether, especially in regard to respiration, which with the former is less forceable, and therefore less capable of overcoming such impediments as are caused by the tongue falling or pressing backwards, and so narrowing the air passages, &c.

## Clinical Teaching in Dental Hospitals.

By OAKLEY COLES.

*Read before the Dental Student's Society of the National Dental Hospital and College, December 3rd, 1880.*

MR. PRESIDENT AND GENTLEMEN,—I have availed myself of the permission given me by your Executive, to open a discussion this evening on the subject of “Clinical Teaching in Dental Hospitals.” The present is, I trust, only the first of a series of discussions that may take place on this question, for it is full of interest to the whole profession, and deserving of more attention than I venture to think has hitherto been accorded to it by our Dental teachers in this country. At some future time it would doubtless be very valuable if we could have a Conference of all those who are now or have been in past years engaged in Dental education. But first it seems reasonable to suppose that the subject may be cleared of many of its difficulties if we start with some definite knowledge of the wants of the Dental student. Hence, I sought permission to bring the debate forward at the Student’s

Society of the National Dental Hospital and College, in order that free discussion might mark out the weakness of our present system, and the frank statement of apparent and real wants might enable us to deal with them in a systematic and efficient way.

Clinical teaching as at present understood, means the demonstration of symptoms, pathology, and treatment in the presence of the patient, in so far that is, as these points are demonstrable. It is customary for the number of students attending such a demonstration to be regulated chiefly by the attractiveness of the teacher's manner, and the inclination of the students towards the subject. Attendance on Clinical Lectures in Dental Hospitals is not compulsory on the student, and teaching by systematic clinical lectures has not, I believe, hitherto been made compulsory on the surgical staff, or essential to the Dental curriculum of the General Medical Council. Where we have had clinical lectures the subjects have been chosen by the lecturers, and they have been given rather as supplemental than as clinical addresses.

We need not, however, occupy our present time with a recital of the shortcomings of the past. Candour compels us to confess that our clinical teaching has not been either systematic or complete. Probably it has not been the latter because it has failed to be the former.

We must take it for granted that the Dental curriculum of the General Medical Council fairly lays down the lines of our work, leaving a sufficient liberty of action for schools and teachers as to enable them to stamp with their own individuality, the work that they perform. At the same time permitting that healthy competition between rival institutions which does so much to encourage and promote the highest degree of efficiency.

Now it is in the domain of clinical work that the Dental curriculum admits of the greatest license. I believe it to be simply a fact that if a student chose to come to a hospital, and break off every tooth he attempted to extract and destroy every cavity he endeavoured to fill, and did



this for the minimum amount of time required by the various corporations, the staff would have no alternative but to sign his schedule when he demanded it. Whilst on the other hand, if every member of the staff chose to display his clinical wisdom simply by his sagacious silence no one could legally (though they might morally), assert themselves injured. These two extreme statements show that clinical work is in Dental Hospitals, at any rate, to a large extent voluntary work, not only on the part of the teacher, but also on the part of the student. It must spring from a good understanding between staff and pupils, and should, above all things, be entered into with devotion to the wants of education. We may, however, take it for granted, that mutual good understanding binds us together, and that we simply desire to find out how we can teach best, and how you can learn the most.

There are several plans that can be pursued, as to the order in which the teaching can be carried out. Thus, we may decide on the arrangement of certain diseases and their treatment, and collect cases to illustrate them as the clinics are given. Secondly, we may collect a number of cases of a given disease and then give a clinic on the group, or finally we may give a so-called clinical lecture without reference to any special case in the hospital, or we may remark clinically on a number of cases without either the dignity or efficiency of a set clinic.

We need only discuss seriously the two first methods, the last plan speaks for itself but says very little in its own favour.

Arranging the subjects systematically and obtaining cases to illustrate the text of the clinic is the plan most favoured in Vienna, and has, I think, the greatest amount of evidence in its favour, the collection of cases in a group and the delivery of a clinic on the subject is practised in this country and also in the dental schools of America. I admit that it is more impressive in its influence, but I doubt if this compensates for its necessary incompleteness in regard to those diseases of which a large number of examples cannot be obtained.

There are, manifestly, certain points that we must keep in mind as absolutely essential; first, clinical teaching should completely cover the whole domain of dental surgery. Next, this work should be done in such a way that every student who wishes, may advantageously avail himself of it. Thirdly, it should supplement and not supersede the ordinary systematic teaching of the college; the one course must deal with facts and symptoms in a broad and general way, the clinical course should deal with symptoms, pathology, and treatment of cases in a precise and individual manner. We want in this matter to obtain the stamp of the teacher's own experience in connection with every subject of which he treats, we require an opportunity of judging of his methods of diagnosis, the process by which he arrives at a definite or speculative conclusion, and the reasons that induce him to adopt one method of treatment rather than another. It is teaching such as this that either makes or mars a dental, or in fact any school.

Demonstrations must of necessity form a large part of the work of teaching carried on in connection with diseases of the teeth, and here I think our efforts should be devoted to the end of seeing that every student shall in turn have every operation demonstrated to him during his attendance at the Hospital.

Clinical lectures should be attended by all the students. Clinical demonstrations should be given only to four or six men at a time. When it is possible these clinics and demonstrations should be given by the Members of the Medical Staff, but it is not every one who possesses the power to teach in a lucid and attractive manner, nor can we all demonstrate with equal success or efficiency, it would, therefore, I think, be desirable if the Dental Hospitals of this country appointed from time to time, Lecturers on Clinical Dental Surgery, chosen from the ranks of the profession.

It is only reasonable to suppose that many who are not prepared to accept the burden of a Dental Surgeoncy to a Hospital, might still be willing to give us, "the product of their own ripe experience," in the shape of a clinical

lecture, for having once arranged the order of the course, it would not of necessity follow that every lecture should be given by the same lecturer, all that would be wanted would simply be that the complete course should cover the entire range of Dental Surgery.

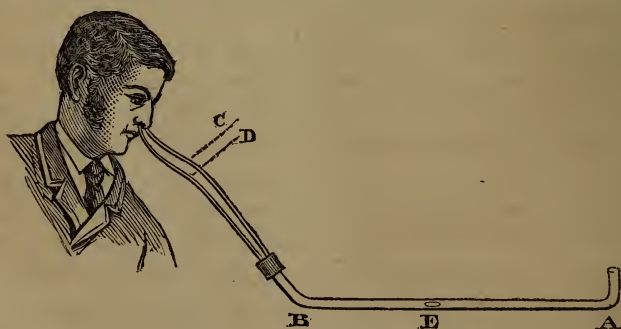
Briefly, then, gentlemen, I may say in conclusion, that we desire that our clinical teaching may be complete, systematic, and comprehensive, leaving nothing untouched in the domain of our specialty, no material unused in the operating rooms of our Hospitals.

### How shall Congenital Cleft Palate be Treated?

By W. A. HUNT, L.R.C.P., Lond., &c.

*(Concluded from page 564.)*

MUCH has been written concerning what sounds usually go through the nose, and what do not. As a specialist my attention was drawn to the matter some years ago; I confess to finding the statements of the text books difficult to follow, and to getting uncertain results in my attempts to trace what share a current of air passing through the nostrils had in producing speech. I therefore devised the following experiment as illustrated in the diagram, which



represents a horizontal glass tube the size of a goose quill, and about a foot long. The distant end A is turned up, and left open to the air; the other end B is also turned up, and connected with two india rubber tubes of convenient



length, which were armed with ivory terminations, C and D sufficiently large to fit pretty firmly into each nostril. A few drops of coloured water were put into the glass tube; which when the tube was horizontal and in a state of equilibrium occupied its centre at E. I had thus a pressure gauge of some delicacy. With the ivory ends C and D placed in each nostril, and the instrument placed at a distance from me convenient for observation, I commenced reading an article in the *Times*, with the force and deliberation I should use if I wanted a roomful of people to hear me; from all I had read I expected to see a considerable range of motion in the water index, as the slightest air pressure from the nose would drive it forward. To my great astonishment I found hardly any movement at all; thinking I could not read and observe at the same time accurately, I began reciting, but with the same result. I tried the experiment in various ways, and I came to the conclusion, that an air *current* through the nostrils is not essential for speech at all; and, indeed, if a current of air goes that way not under a patient's control, there is twangy, nosey speech. And such is the speech after operation. Indeed, I believe that surgery can only be successful in those *rare* cases where the tissue is sufficiently abundant to make a velum that shall by contact against the posterior wall of the pharynx cut off all communication with the nose when required. However little needed, and indeed detrimental, an air current through the nose may be for speech, yet for all that the passage beyond the velum must be free, or the sound waves which should pass onward to the external air *per nares* will be destroyed; and again, sonorous undulations may be transmitted from the upper surface of the velum *per nares* to the external air, although at that very moment the velum may be completely cutting off all air current.

The earlier attempts to close the cleft by means of an artificial palate have not been always successes, the complex apparatus designed could be constructed only by a few highly skilled men, it was moreover cumbersome, un-

reliable, and of such cost as to be quite beyond the means of most patients. Now what Sir W. Fergusson has done for the plastic operation, Dr. N. W. Kingsley, of America, has done for the construction of artificial palates. He has shown the way to close *any* cleft, and restore the hard palate as a hard palate, and give a velum of such beautiful, soft india rubber, as to closely resemble skin in consistency and feeling. The velum is in two layers, one of which rests above and behind the cleft, and the other covers for about half an inch all the margins of the cleft which we see from the front of the mouth. Between these two layers the muscular edges of the cleft play, and as no muscles have been divided these edges at once take on useful duty. Let anyone place himself before a mirror, and watch his velum during the act of yawning. He will see how it is raised an inch and more until its dependent edge rests against the posterior wall of the pharynx. He will see how such a range of motion is simply impossible with the tense velum after surgical operations; but with the rubber velum this is always attainable, and in this fact lies a fundamental difference between the two methods of treatment.

So long ago as 1864, Dr. Kingsley read a very able paper before the Odontological Society, in London, concerning his method; it was published in the Society's "Transactions," and will be read even to-day with great interest by those who undertake the treatment of these cases. From this paper not coming before the profession generally, it was little known except to Dental Surgeons, to whose department the matter mostly belongs. Dr. Kingsley's statements, though then thought by many to be too much opposed to ingrained opinions, have since stood the test of experiment and time. Much is due to the labours of Sercombe, Ramsay, Oakles Coles, and others, to develop this treatment in England, and great success has attended them. But yet the apparatus was very complex. Ten years later, Dr. Kingsley again favoured the Odontological Society with a further com-

munication, now showing a method by which a most excellent and simple palate could be constructed, by any fairly skilful, well trained Dental Surgeon who has studied the matter well. It is almost impossible to describe the apparatus on paper so that it may be fairly understood. Suffice it to say it is not attached to the teeth, and is independent of them; being held in position by the muscular action of the margins of the cleft in the soft and the *undercuts* in the hard palate, if that be also cleft. In 1864, Dr. Kingsley's own words are, "In conclusion, it will naturally be asked, what has been the result of this treatment in any number of cases? I can state most confidently, a decided improvement in speech within a very few weeks, a clearness and distinctness of utterance which the patient never showed before. In some cases the progress has been so rapid that within a period of six months after its introduction, the wearer would not from his speech be suspected of possessing such a deformity, and in every case within a few months the speech has improved so much as to render it perfectly intelligible to strangers without repetition."

Sixteen years have passed by since these words were written, and a much more extended experience has given most gratifying results. Perhaps a striking proof of the value of this treatment will be evident when I mention that in the United States, where Dr. Kingsley's method is understood, the practice of staphyloraphy is virtually abandoned, and that many of the palates, surgical successes of former days, have been slit up again, and this apparatus supplied in order to give the patient the power of being understood by his fellow men.

As an old pupil and admirer of the late Sir W. Fergusson, I have not readily relinquished the old faith in the surgical treatment. Some time before his last illness, I examined and discussed with him Dr. Kingsley's apparatus and models, which had just been brought to this country, and described by Mr. Turner. He freely admitted the ingenuity

and skill with which the difficulties of constructing artificial palates had been overcome; but his leading objection to me was, "well, surely a roof of flesh and blood must be better than any other." I think, however, that I have shown that "a roof of flesh and blood" is *surely* not so good as an artificial one.

Very much detail have I left undescribed, as this paper is already too long. I hope to refer at a future time to Mr. T. Smith's labours in connection with Surgical treatment at an *early age*, a point on which he has worked with great success. Indeed, an interesting paper appeared in the *British Medical Journal* for June 19th last, by Dr. Rawdon, on the very subject, an outcome of Mr. Smith's work. I have rather endeavoured to bring broad principles before the profession, and give some solid proofs of the need there is to re-consider the whole question of cleft palates.

*Yeovil.*

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### Notes on Nitrous Oxide Gas.

*Read before a Meeting of the Midland Counties Branch of the British Dental Association, held in Manchester, October, 1880.*

By H. MARSH, L.D.S.

*Continued from page 570.*

Gas administration is now conducted in so many ways that, what with economizing, Clover's supplemental bag, Cattlin's bag, Coleman's economizer, Barth's apparatus, and the various gasometers now in use, &c., &c. (several of which were exhibited and shown with latest improvements in face pieces from Barth & Co.), all of which have their special advantages and supporters, one is liable to fix upon a way of giving gas and fancying their *own method* the *best of all*. For the sake then of discussing this point, pardon me saying I prefer using a 12 gallon gasometer, fitted up with 100 gallon iron bottle of gas underneath, which arrangement, mounted on a box set upon castors, is rolled up to the back of the operating chair, and enables me to turn on more gas if needed, without removing the face piece from the patient. The gasometer is weighted up to 12 lbs., the water surrounding the bell is covered with a slight film



of oil, which prevents oxydation of the gas till the water is saturated, and also keeps the water from fouling so soon as it otherwise would do. Four feet of tubing, and the face-piece, complete the apparatus, as economizing of gas is never attempted at all by me. One little matter is omitted. Firmly believing in the gas and its usefulness, I never give it without first preparing for any *sudden stoppage of breathing* should such unfortunately arise. The Sylvester and Marshall Hall methods of restoring suspended animation are well known; but by means of a small Gaiffe electric battery, tested before each operation by merely pressing down a brass rod, we have one of the readiest instruments possible, which on using once just after a chloroform operation, convinced me of its ready applicability to Dental gas cases.

The quickest way of acting on the diaphragm becomes of vital importance in the production of artificial respiration, and the method proposed by Remak, and worked out by Ziemssen, consists in acting upon the *nervous twig* which directly *communicates* with the *muscle itself*. In this way a thorough contraction of *all the fibres* supplied by the nerve is *insured*. An ordinary knowledge of anatomy combined with a little practice will enable the Dental Surgeon easily to hit upon the *motor points* of the nerve required. For example, we wish to stimulate the diaphragm muscle, the phrenic nerve supplies it (which arises from the third and fourth cervical nerves and passes down the neck upon the scalenus anticus muscle). One rheophore is applied to the back of the neck, and the other (with an olive-shaped pointed extremity) is pushed forwards under the posterior edge of the sterno-cleido-mastoid muscle in the lower third of the neck, as in this position the motor points of phrenic nerve are reached at once, and the current most easily applied.

Stoppage of breathing though, if the pulse be good, need not excite immediate alarm, for the Committee of the Royal Medical and Chirurgical Society determined, by their experiments on suspended animation, that there was an interval of *three minutes forty seconds* between the cessation of all *respiratory action* and *cessation of heart's action* in dogs, and quoting from J. T. Clover, Esq. (the well-known gaseist of the Dental Hospital, London), he says:—"The functions of the brain proper, cease before those of the medulla oblongata, hence we have loss of consciousness before failure of breathing. The functions of the medulla again are abolished before those of the ganglia presiding over the action of the heart, and hence the heart continues to beat, *after* the breathing

has ceased." The same authority also adds:—"When respiration is becoming *very slow or stops*, or the pulse quick or unsteady, or the pupil suddenly dilates, then the gas should be removed. If the anæsthetic has been continued too long, artificial respiration would be the proper remedy.

In Paris they have been employing nitrous oxide gas for prolonged surgical operations, and I am indebted to the courtesy of Messrs. Barth & Co. for the following description of the mode of giving it. "A glass dome or bell is provided large enough for the operator, his assistant, and the patient to be operated upon *to go under*. This is connected with an air-pump, by means of which the density of the air in the receiver is raised to that of two atmospheres. A bag containing a mixture of pure nitrous oxide gas from a bottle with 20 per cent. of free oxygen gas is then introduced, and the patient inhales the mixture, necessarily at the *same pressure* as that *existing under the bell*." A full description of M. Bert's theory and method is printed in the *Gazette Odontologique*, Mai 1880, and *is well worth perusal*. Time forbids my quoting the article now, so to summarise this way of administering, the gains are said to be,

Firstly, that it is a perfectly safe method for long operations.

Secondly, it produces anæsthesia as rapidly as the pure gas alone.

Thirdly, that there is a complete absence of all stertorous breathing, or any other unpleasant symptoms.

M. T. Bert proves that the gas itself is a *true anæsthetic*, and that in the ordinary administration of gas, *asphyxia* is combined with *anæsthesia*. He, therefore, proposes to remove the *asphyxia*, which *alone* is *dangerous*, by keeping up an adequate amount of oxygen sufficient to sustain life. The questions arising from this account are—Firstly, Has this method been in use long enough to prove its perfect safety? Secondly, Is it easily applicable to our operating-rooms? In answer to the former, the French critics seem undecided on the point. In reply to the latter question, I think we should all hesitate to introduce such a monstrous machine into operating-rooms, which, by one account I saw, necessitated an air-pump worked by horse-power, and rendered the services of four or five assistants indispensable. If an apparatus can be designed so as to *administer gas* in this way *by operators alone*, then the anæsthetic nitrous oxide will most assuredly become, for the general and Dental surgeon, the only agent for procuring sleep during operation.

There are many strange cases of peculiarities exhibited by patients under the gas cited in our journals. On one occasion, Mr. C., an amateur actor, came to see me. He required molar fangs to be removed from both upper and lower maxilla. Gas was administered, and three fangs barely removed, when, clenching his fists, he sprang out of the chair, and walking round to the door, thumped into it till the blood flowed freely, and on finally coming round, coolly asked what I had been doing to make his knuckles bleed. Six times he took the gas, and every time a similar scene was enacted, varied once by a kicking bout on the floor with his heels. In such violent cases, I leave the patient entirely alone as the slightest attempt to restrain such temporary madness only makes matters worse; and although I once knew the services of five gentlemen required to restrain a patient while under a chloroform dental operation, such a case as the one just cited was the worst gas one I have heard of or seen. It is well to remove anything that might prove hurtful to the patients themselves in all such cases as these, and to keep out of their way as much as possible the instant teeth have been removed.

In provincial towns it often happens that a medical man will bring a patient to the dentist, and ask to give their friend Mrs. So-and-So "just a whiff of the gas, and then operate." You naturally ask—Is the lady suffering from heart disease? No! From phthisis? No! Is she subject to epilepsy? No! Is she suffering from anything that might interfere with the proper taking of the gas? Well, no, not that I know of; but she is very nervous, and will become a mother soon, and I thought a whiff would be enough to deaden the pain in order for *you* to operate. In such cases either give the gas thoroughly or not at all. *A whiff is not enough*, and if attempted, brings discredit on the gas and on the operator as well; but worse than all, the patient's nervous sensibility is fearfully intensified by their being rendered (so to speak) unable to express it, and the operation itself is tenfold more horrible than if no anæsthetic was used at all. I speak from experience, having had teeth extracted without gas, with gas, knowing nothing whatever of the matter, also with gas where the operation has been felt throughout, and for a nervous patient to undergo this ordeal nothing more dreadful can possibly be conceived.

We hear nowadays a great deal about the riskiness of wholesale administration of gas, and some even lay down the law that no



dentist should give it without the assistance of a medical man. Now, does the medical man's presence aid us? Certainly it does, but should we relax any of our duties in consequence? No, indeed, for, as I take it, should any mishap occur, then responsibility is only shared. He warns if danger be near. He aids most materially if accident occur; but as for insisting on a surgeon's presence—our patients come and expect us to be duly qualified to give the anæsthetic they hear so much of, and it is our duty to be equal to the demand made upon us, without calling in a medical man as well.

Sometimes patients will come asking for gas who are phthisical or suffering from heart disease, and freely admit it (which all patients, unfortunately, will not do, even though badly diseased at the time). Are these cases to be denied the anæsthetic altogether? for example, on one occasion a lady came, far gone in consumption, suffering from heart disease, and also her throat was blocked up fully one-third by an enlargement of the left tonsil, her medical man refused absolutely to give her chloroform, but said she might have the gas if she could find anyone who would give it her. It was administered, and 6 teeth removed; the following week she inhaled it again for removal of right upper wisdom and second molar fangs, and again she returned for more when the extractions were finished. Each gas operation she fully expected to die under (which after first time of taking is rarely the case), but on recovering the third time, the gratitude expressed for the result experienced, fully compensated for the anxiety felt by all of us during the time of operating. The risk in these cases is great, but the weary agonising toothache was upsetting the whole system, and therefore rendered operating imperative, and I believe we ran a lesser risk in giving gas in these cases, rather than taxing the overburdened system by attempting to do without it.

For several years a diary of gas cases has proved very useful, and I may be excused for referring to and quoting from it.

Date.	Patient's Name.	Galls. Gas used.	Teeth Extracted.	Fee.	Remarks, &c.
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A gentleman once wasted three-quarters of an hour before finally sitting down to inhale the gas, when, as though to make up for lost time, to my great surprise, he had scarcely taken six inspirations before he was unconscious; the tooth was removed, and he was fully recovered before 35 seconds had elapsed; he was fearfully nervous beforehand, and had taken

champagne at lunch time, and two wine glassfuls of neat brandy before taking the gas. Here I think the peculiar exciting action or first stage of inhaling gas being brought into quick contact with the brandy stimulant, acted in the same way as stimulant coffee does on the excited brain of a student before examination, which if taken at supper time under ordinary circumstances would keep him awake half the night through. The action of gas upon patients who are in the habit of using stimulants freely, is a point for us to discuss, many present being able to give us useful information concerning it.

In conclusion, let me briefly refer to some gas delusions which are of all kinds and varieties, some being exceedingly pleasurable, others again (as our Journals announce) proving most damaging to the operator who has the misfortune to have the case in hand. As a class of men engaged in professional duty, the *Dental*, even more than the *General Surgeon*, is more open to accusations which if but breathed only by slanderous tongues, is apt to ruin his character and practice for ever, *however innocent he may be*. Can this be guarded against when giving gas? The second person in the room is not sufficient to disprove a patient's mind of these ideas, as we have had evidence of—individually, perhaps. Then what can be done? Many gaseists prefer to impose such conditions upon ladies (before giving gas) as they, very naturally, shrink from, and to this cause may be traced, perhaps, those unfortunate cases which do arise. The impression (before unconsciousness) may pass across the mind, "How easily Mr. So-and-so could take liberties with me." Narcosis comes instantly on, and the operation is performed—but coming round, the patient's brain takes up the impression of the last thought ("How easily Mr. So-and-so," &c.), and being in a state of confusion—the picking up of a dropped face piece, the raising of forceps from the lap, or the holding of hand spittoon under the chin—being felt by the patient in this state of dreamy confusion and undress condition, impresses them with a sort of connected link of the act itself, and, in many instances, patients resolve never to visit their old Dentist again. I was told by a gentleman, that having given gas to a lady, *her husband being present all the time*, when she reached home she averred the Dentist had taken liberties with her, and though he assured her he had not left her side during the whole time, she could hardly believe his word. How pleasant for the Dentist to hear this from the husband, and how well it was for him that the

gentleman had remained with his wife during the operation, was it not? In point of fact, having asked for corsets, &c., to be loosened (while operator leaves the room), if freedom of breathing is not at once apparent, we easily see where obstruction lies on turning the gas on, and only twice have I had occasion to ask the patient to more fully carry out previously given instructions. Too much fuss only alarms patients, while a quiet knowledge on our part of what is necessary, and no more, tends to increase confidence.

The morning is the best time to administer gas, the body being stronger then than in the after part of the day, and lividity is generally better marked at the latter than the former time, but this is generally present more or less, and is dreadful only to an onlooker. The question of dreams, whether begun just before or after unconsciousness, is a nice point to decide. Can we decide it? I have noticed several times that a passing bus bell has sounded. Patients have been nearly off, and have heard it also. Narcosis has followed, the teeth have been removed, and on coming round, patients have said "I dreamed I was in a bus coming to see you," and the dreamy confusion following narcosis has been expressed by one gentleman shouting out, "No, no, no," because he assured me the conductor wanted him to pay again. Another patient told me the conductor was trying to knock his cigar out of his mouth, which he also resented in a similar manner.

A dream after operation is almost always a pleasant one, while if begun before operation, I often notice it is a very horrible one. Only last week a young lady had a most vivid and frightful dream of a railway accident. She had come a distance by rail, and had been hearing a graphic account from a traveller who gave his personal experience of the disaster to the Scotch Mail. She assured her friends that she did not know of her cries, or experience any pain in the mouth, and that her dream was the only thing that affected her.

I greatly fear, Mr. President, that I am trespassing too long in these notes; permit me, therefore, to express my indebtedness to the many writers and experimenters, whose opinions I have so freely quoted, and bear my testimony to the value of the discovery made by Priestley in 1776, tested by Sir H. Davy, in 1800, but so nobly and fearlessly advocated in 1844, by the late Horace Wells, whose early decease deprived him of the pleasure of hearing countless thousands hail him as one of the greatest benefactors of suffering humanity the world has ever seen.

## On Modelling and Modelling Compositions.

*Read before a Meeting of the Midland Counties Branch of the British Dental Association, held in Manchester, October, 1880.*

By ROFF KING.

MR. PRESIDENT and GENTLEMEN,—I have been asked to read before you a short paper upon some subject connected with our profession, I have accepted the invitation with very considerable diffidence, because I do not feel that I possess any special qualification for the task, but, considering that one of the objects of our Association is “to meet together for the interchange of ideas and the discussion of subjects allied to our calling,” and having the interests of our Society at heart, all other feelings have become subservient. In choosing for my subject, Modelling and Modelling Compositions, I have been guided by a desire to ventilate a process which I think you will all agree is of the highest importance to the dentist, although it is one upon which almost all practitioners differ in some degree. I therefore, hope, that if I have nothing new to impart to you, that at least my paper will have the effect of inducing some of our friends present to give us the result of their experience, in order that we may arrive at a definite conclusion as to the best means of taking an impression of the mouth, with the least inconvenience to our patients, and the most satisfactory results to ourselves. Within my recollection, beeswax and gutta percha were the only two materials employed for this purpose, but they have so long been superseded that I will dismiss them, by merely observing, that when I did use beeswax, I found that the addition of about 10 per cent. of paraffin made it knead more readily when warm, and set harder when cold, and that gutta percha was less amenable to thermal changes when as much white oxide of zinc or French chalk was forced into it, as it would hold in combination. I believe we have to thank our American cousins for the idea of taking impressions of the mouth in Plaster of Paris, but be this as it may, it performs so important a part both in the surgery and laboratory of the Dentist, that a brief examination of its characteristics, and the mode of its manufacture, cannot be out of place here. I should not, however, occupy your time to this extent, but from a conviction that very few Dentists enjoy to the fullest extent the advantages which the use of good sound “Plaster of Paris” would ensure, in consequence of the neglect of certain conditions which are necessary for its protection, and its natural



tendency to absorb moisture from any source within the range of its influence. Plaster of Paris I need scarcely remind you is sulphate of lime, it is made from a soft blueish white kind of marble called gypsum, a mineral which is very abundant in various parts of England, it consists of 28 parts of lime, 40 sulphuric acid, and 18 of water. For making superfine plaster, the whitest blocks are selected, broken up, and every particle of colour carefully chipped off, it is then ready for the oven, here the gypsum is subjected to considerable heat, about  $300^{\circ}$ , until it is deprived of nearly all its water, this process renders it very soft, and easily reducible to fine powder, which is done in a manner somewhat similar to that employed in making flour. When the powder is made into a paste with water, it crystallizes into a hard coherent mass, with a slight evolution of heat, and this artificial hydrate has the same composition as native gypsum. This, then, is the substance known to us as Plaster of Paris, and I have made it my study to obtain it before it goes through the ordinary business channel which I consider its road to ruin. It is put into ordinary canvas bags and sent to the dealer, no consideration is given to the state of the atmosphere, and the railway servants neither know or care whether its travelling companions are likely to injure it or not, and as for even looking at the label on which the words "To be kept dry," are printed, they pay not the slightest attention. A bag from Newark to Manchester has to be trans-shipped here, and trans-shipped there, and the business is done. The dealer then divides into small quantities in paper bags, another journey by rail to the Dentist, under similar circumstances, or, perhaps worse, by passenger train, and who can wonder if by this time it has absorbed nearly all its water of crystallization, and only needs a small quantity more to turn it very rapidly into an imperfectly crystallized soft mass, which will crumble away under the least pressure. The only way to guard against this injury, is to obtain your plaster direct from the manufacturer, packed either in a waterproof canvas bag or in a tin box, so secured as to prevent the penetration of moisture, and for keeping it in the workshop, I think an iron corn bin well pitched on the inside, and placed in the dryest corner of the room, is as good a receptacle as could be devised. With plaster procured and protected in this manner, I have made a few experiments, not only for taking impressions and casting models, but for working celluloid, which according to my experience can be quite as satisfactorily moulded in good plaster

as in metal dies, I have brought a case with me, which I shall be happy to submit for your inspection.

The notes on the behaviour of Plaster of Paris while setting, which have lately appeared in our journals, are not satisfactory to me, inasmuch as nothing is said as to the condition or quality of the material employed or the temperature of the room in which the experiments were conducted, all of which I hold to be of primary importance, and which the following simple experiments will prove:—

Temperature of room  $58^{\circ}$ —some plaster was mixed in the usual way with water, which registered  $55^{\circ}$ , the thermometer was plunged into it, and the mercury receded to  $55^{\circ}$ , eight minutes elapsed before the plaster was hard enough to be removed from the mouth. Supposing we were taking an impression, the temperature having by that time risen to  $62^{\circ}$ , it proceeded gently upwards for 30 minutes, when it reached the highest point  $72^{\circ}$ , when it just as gradually receded to  $55^{\circ}$ . The same experiment was tried later in the same day, when the temperature of the room had risen to  $70^{\circ}$  with the following result:—

On immersion the mercury receded to  $65^{\circ}$ , but in five minutes rose to  $70^{\circ}$ , when the plaster was sufficiently hard to break with a clear sharp fracture, and the highest point  $85^{\circ}$ , was reached in twenty minutes. Hence, I conclude that experiments made with this material should be conducted under conditions as nearly approaching the real operation as possible, and in a temperature that as nearly as we can imagine will exist when the plaster will generally be used. The temperature of a Dentist's Surgery I think, would be about  $70^{\circ}$ . and at a temperature of  $70^{\circ}$  I have therefore tried my plaster. In specimen number one, we have too rather deep old fashioned watch glasses, with the edges ground so that they fit accurately when put together, so as to form a box, which will contain about the quantity of plaster required. These have been immersed in water at about  $90^{\circ}$ , which will represent the temperature of the mouth. The box was filled with plaster mixed with cold water, and the edges brought together and held with gentle pressure between the thumb and fingers, which will represent the slight force exercised in the ordinary process:

The thermometer descended from  $70^{\circ}$  to  $65^{\circ}$  on immersion, but in five minutes rose to  $70^{\circ}$ , at which time the plaster would break with a clear fracture; a maximum heat of  $85^{\circ}$  was reached in twenty minutes from the time of closing the glass box. Number

two is a similar experiment, the plaster being mixed with a solution of alum, one in thirty-two, on immersion, the thermometer fell  $3^{\circ}$ ,  $67^{\circ}$  in two minutes ten seconds, when the plaster would break well. The mercury rose to its highest point,  $92^{\circ}$  in seven minutes. Number three, the same experiment, with solution of salt one in thirty-two, on immersion the thermometer fell  $10^{\circ}$  to  $60^{\circ}$ , and in two minutes ten seconds rose again to  $63^{\circ}$ , when the plaster would break. Highest point  $95^{\circ}$ , time ten minutes. Number four, the same process, warm water  $90^{\circ}$  being used in mixing the plaster, on immersion the thermometer rose to  $80^{\circ}$ , and remained at that point for three minutes, when the plaster would break as sharply as the most fastidious operator could wish. The highest point,  $85^{\circ}$ , was attained in ten minutes.

If you examine the specimens, you will observe that number three, "salt," shows the greatest degree of expansion. Number two, "alum," shows rather less, while number one shows very little indeed. Number four, however, will require a very good pair of eyes to detect any opening of the glass box. Number five is a specimen of the same kind, with plaster obtained direct from the manufacturer by goods train, in an ordinary sack, about a month ago, but the expansion is so great, and the plaster comparatively so rotten and soft, that I have not thought it well to test it very minutely.

This, gentlemen, brings me to the close of my observations on Plaster of Paris, but for the benefit of those who would like to see the result of its behaviour in larger bulk than I have yet dealt with, I have prepared a specimen weighing nearly three pounds, treated in precisely the same way as the others, and considering its bulk, the expansion is very trifling indeed.

Of late years, several compositions have been placed in the market by enterprising members of the profession, which for obvious reasons I shall only mention, they have all found friends, and doubtless all have claims, but I have long discontinued their use in favour of a composition which I make for myself, and which I consider (perhaps from prejudice) is better than any other, at any rate, it is so thoroughly under control, that it can be made to knead at almost any temperature desired, and coloured to suit the fancy of the operator. I prefer it without any colouring matter, its natural appearance is by no means objectionable being nearly white. I find it useful, however, to have a variety which will knead at a very low temperature, for soft spongy gums, and



a very hard variety, for setting up cases—these two varieties it is well to colour in order to keep them separate.

The tablets which I now hand to you consist of sterine four parts, gum kowrie eight parts, and French chalk fourteen parts. The sterine should first be put into an enamelled saucepan over a slow fire or bunsen burner, and when melted, add the gum; when these are thoroughly mixed, add the chalk a little at a time, keeping it well stirred until the whole mass is combined, pour into plates or moulds, and it is ready for use. A greater proportion of sterine will make it knead at a lower temperature, while a larger proportion of gum will have the reverse effect.

The pink tablets which I now hand to you, contain nearly double the quantity of gum, and a little French carmine powder, it will require nearly boiling water to soften it, and will become very hard indeed when cold. A denture may be set up with this composition, and worn in the mouth for an hour without damage, and it may be invested and treated exactly in the same way as beeswax.

In making, the colouring matter should be mixed with the chalk, if it is thought necessary to perfume it, a little essential oil may be added while in the softest condition. For setting up, a spirit lamp should always be employed, while if it is thought necessary to dissolve it, a little soda and hot water will soon accomplish that end.

In closing, I may state that the result of my experience leads me to the conclusion that plaster of Paris is the best and most reliable material for taking impressions of the mouth, that mixing it with warm water is the best means to hasten the setting of it, which I have attempted to prove to you. Some people very strongly object to the process, but this difficulty may generally be got over by the addition of a little rouge, which will not only act as a disguise, but also hasten the setting.

For all cases where a composition is required I use the one already described, heating it in water, and passing it over the flame of a spirit lamp so as to get the surface soft and smooth, and cooling it while in the mouth with a 2 oz. ball syringe of cold water.

For difficult dovetail cases I use the two in combination, by first taking a model in composition and shaving away the undercut parts, and so preparing it as to command the breaking of the plaster at convenient points. The surface is then scored over so as to mark the plaster, and act as a guide in replacing the pieces

which will be broken away on removal; the impression is then held over a spirit lamp, and rapidly passed and repassed through the flame (taking care not to heat those portions prepared for the addition of plaster) until it is soft enough to take a fresh impression, the plaster is now added and the process carried out in the usual way.

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### The Dental Diploma; Sine Curriculum.

It seems a strange and unaccountable thing that so many of the Dentists of the United Kingdom who are registered as practising Dentistry separately, should be careless and neglectful of the necessity of obtaining a qualification, when we consider that the doors are opened Sine Curriculum to all respectable practitioners by Dublin, Edinburgh, and Glasgow, till August, 1881, and also that the examinations are of a practical character, and not severe for those already in practice if fairly well up in their profession. A few months' steady reading by those who are well acquainted with the everyday routine of Dental practice, ought to enable them to obtain the L.D.S., which is the only guarantee to the Medical profession and the public, of a Dentist's competence.

It will be very annoying and galling to gentlemen who have served articles to Dentistry, but who have neglected the opportunity of qualifying while the doors are open, to be pushed aside by young men entering the profession with qualifications, and for them to be only on the same footing with the "Registered chemists assistants," who will be doubtless leaving their shops, and starting as Dentists for the next few years. No practitioner can be acting fairly to himself who does not endeavour to make his position secure, and place himself beyond the reach of suspicion by obtaining a qualification.

The respectable portion of the community are now being rapidly educated by the Medical profession, to the fact that those only who hold the Dental Diploma are recognised by them as Dentists, as they argue that those who fail to obtain the L.D.S. now they have the chance, and the examining boards are inclined to be liberal, must be deficient either in the Surgical or the Mechanical part of their calling.

L.D.S., Glasgow.

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## Reviews.

*A Treatise on Oral Deformities as a Branch of Mechanical Surgery.*

BY NORMAN W. KINGSLEY, M.D.S., D.D.S., H. K. Lewis,  
London, 1880.

It is claimed by the author in his preface, that the subjects of his book are but scantily treated of in the works to which the Dental student has access, and indeed, that there is almost no literature upon certain of these specialties, so that he had to invent almost every process he used in the treatment.

This is not an empty boast, and in the United States Dr. Kingsley has long enjoyed a reputation for ingenuity in combating difficult or novel conditions, so that no reader can peruse the pages of this work without finding that it is very truly original; at the same time he has freely taken, and freely acknowledged, material from others where it served his purpose to do so.

It is the function of a critic to pick holes, and to point out those particulars in which, in his opinion, the views of the work under review are not to be implicitly accepted, but the writer of the present notice wishes to state that, although he may take exception to certain matters, and thus his notice be mainly made up of carpings and cavillings, he deems Dr. Kingsley's work to be most practical and most original, and to be upon the whole the most valuable contribution to Dental literature which has appeared within the last few years.

The book opens with a consideration of the etiology of irregularities of the teeth; he briefly dismisses the "premature extraction of the deciduous teeth" as causing contraction of the jaws, a superstition which has lingered perhaps longer on the other side of the Atlantic than on this, with a necessary caution to retain the temporary canines till the period of emergence of their successors. But there is a little flaw in the reasoning which leads up to the conclusion "that whatever may be the inducement to remove any or all of the deciduous teeth prior to their period of shedding, the canines should be retained until there is ample evidence of early emergence of their successors, unless the health and comfort of the child would be sacrificed in so doing." This is an admirable general rule of practice, and is true for the vast majority of cases: occasionally, however, it will happen that a Dentist well versed in the manner of growth of the jaw, may be able to foresee with

certainty that there will never be room for all the permanent teeth, and also that a general expansion is contra-indicated. The early recognition of this state of things has been acted upon by Dr. Louis Jack, even to the extent of removing first bicuspids prior to their eruption; and where it is certain that teeth will have to be sacrificed, early extraction of the temporary canines to give space to central and lateral incisors is not to be forbidden in an absolute manner. But the precept holds good wherever there is any hope of retaining all the permanent teeth.

Dr. Kingsley lays much stress on heredity as the proximate cause of dental irregularity, but he is "irresistibly led to the rejection of the theory of high or selective breeding," as expounded by Mr. Cartwright, exerting any real influence. However, the rejection is over hasty unless better reasons for it lie behind than those given in the text.

Taking the prize fighter type of heavy but well formed jaw, big mouth, great square face, small (relatively) cranium, and contrasting this with the "well-shaped lips, small mouth, not too wide chin, high forehead, oval face tapering below, and expression in which the intellectual predominates over the animal, what have we but a contrast of what we hold to be ugly, with what we consider beauty. And a "selection" by men of their partners for life is always going on; once accept a type for beauty not quite consistent with full jaw development, link it with at least equal or greater intellectual power, and the thing will be intensified from generation to generation by selective breeding. Dr. Kingsley objects that "æsthetic results" would be in the direction of benefit to the dental as well as to other organs, and would make them more symmetrical, but this argument falls, unless the irregularity resulting is notably disfiguring, or unless the intending suitor takes in consideration the beauties of the interior, as well as of the exterior of the lady's mouth. And it does not at all follow that the type of beauty most admired is that involving the most perfect relation of parts to one another; there is a certain race in Africa who estimate the relative beauty of proposed wives by the oddly chosen standard of the development of a region remote from their faces, though whether they have done so long enough to have brought about by their "selective breeding" the prodigious nether development of their most beautiful women I know not.

The author has omitted to mention one important fact, that teeth are less variable than jaws, and this not only in man, so that



when inheritance on the one side tends to diminish the size of a jaw, it will act less markedly upon the teeth, and he refers all otherwise unexplained irregularities to disturbed innervation, due to precocity and over stimulation of the nervous system. Much that is interesting and well worthy of consideration is adduced in support of this view, but it falls short of forcing full conviction on the mind, and tells clearly no more than that mental precocity, large disturbance of nerve function, and crowded irregular jaws, are correlated in the present generation; they may be related as cause and effect, or they may not.

*(To be continued.)*

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### Mechanical Dentistry in Gold and Vulcanite.

By F. H. BALKWILL, L.D.S., M.O.S.

Mr. Balkwill's work is intended to be of practical service to the rising generation, by explaining and smoothing over the many difficulties and perplexities, which, from the author's own experience, are likely to beset and bewilder the pupil, the mechanical assistant, and the young practitioner.

We think the book, more especially the practical part of it, will prove eminently useful to those to whom it is addressed. It is thoroughly what it professes to be, namely practical; full of valuable hints, and showing a complete knowledge of the subject on the part of the author that can only have been acquired by years of careful work and observation. It is illustrated throughout with extreme clearness, and this is a very important point in a work of this nature; there are many intricacies of manipulation and adjustment that it would be quite impossible to convey clearly to the mind of the reader without the aid of a good diagram, and we heartily congratulate Mr. Balkwill upon the way in which he has carried out this portion of his work, the illustration could not be better or clearer, and we regret to say this is not always the case with scientific works.

Taking the book as a whole, we can conscientiously recommend its careful perusal to the profession at large.

With regard to the introduction, we cannot help thinking that it is certainly the weakest part of the book, and we regret that the author should have thought it necessary to devote so much valuable space (52 pages out of a total of 231) to the discussion of abstruse science, which can scarcely be said to have any direct bearing upon the real object of the book, namely, mechanical Dentistry. The

information it contains forms a part of the ordinary course of the Dental student's education, and is easily obtainable in the ordinary handbooks. Furthermore, this introduction is frequently exceedingly obscure, the arrangement and subdivision of the sentences and choice of expressions too often suggesting hasty workmanship. Such a sentence as the following is, we think unnecessarily vague (in discussing the temporo-maxillary joint);—"In trying to analyze the relative actions of these parts, I was, at first, a good deal puzzled by the consideration that possibly structural, anatomical, or rudimentary adaptation, might interfere with the merely mechanical construction; but some of the facts of comparative anatomy seemed to give assurance that little would be found useless." Again, the following passage requires more than ordinarily careful reading to arrive at its real meaning, "as before mentioned, a bird's eye view of the lower jaw shows us that the back part of the condyles can be divided into parts of two circles, a larger and inner, whose common centre is outside the front teeth, and a smaller outer, whose distinct centres are far behind the last of the back teeth." Such phrases as that "the *eater* first closes his teeth," or "as an artist in drawing first dots (*sic*) the essential points of his picture," are to say the least of them careless, and there is a general indistinctness pervading the description of the temporo-maxillary articulation that is unworthy of the abilities and usual carefulness of the author. It would be hypocritical to find too much fault with what is after all not an essential portion of the work, but we would strongly urge upon the author the advisability of greatly curtailing this introductory matter in his second edition, and of devoting the space so gained to an enlargement of the excellent chapter on Regulation Plates, the only drawback to which is that it is too short, not that the individual cases are insufficiently described, but rather that they are too few in number. The introduction is in fact two papers read before the Odontological Society, and we should imagine that they have undergone but slight revision. Such expressions as "I have here an instrument, p. xliii.," unaccompanied with any illustrations, suggesting that the instrument was probably exhibited at the society's meeting. Even the last few pages of the introduction containing a description of the human teeth and the mechanism of mastication, and which therefore have a direct reference to what is to follow, bear marks of the same absence of clearness and thoroughness. The abrupt transition from the consideration of natural



organs to that of artificial substitutes, tends to bewilder the reader. We cannot congratulate Mr. Balkwill upon this introduction, we think that the greater part of it is out of place in a book of this kind, but if it must be introduced, we think that it might be made much clearer by a careful revision and by more attention being devoted to the style of the composition. It is with pleasure that we turn from the introduction to that part of the book which deals with mechanical dentistry, pure and simple.

The method of packing vulcanite, described on the first page, is well worth quoting: "The plaster model is not dipped in wax, but dried, and—whilst warm—coated by a camel's hair pencil with a chloroform solution of uncooked rubber. . . . This coat is laid on whilst the model is warm to prevent evaporation of the chloroform, which makes the rubber spongy if any remains; the solution should be carried wherever the plate is intended to go. A pattern in sheet lead having been previously prepared, a plate is cut by it out of the soft rubber, which is placed upon the model and carefully pressed with the forefinger into all the inequalities of the impression. The rubber will be found to adhere to the previous coating with the greatest possible tenacity, therefore a little care is necessary in placing it in position, as after touching the model it cannot be shifted."

This plan is thoroughly satisfactory in many cases. It will be found most effectual for regulation pieces, for lower centrals or denuded teeth, or for additions of one or two teeth in repairs, we do not think, however, that the method will answer in deep dentures for new work where there are many teeth required.

Turning to the regulation cases, we cannot too highly commend the careful description of them, and the ingenuity displayed in such niceties as ligatures, rings, and plugs. The methods of moving irregular teeth are good in themselves, and well put before the reader, but we would suggest that the introduction of more cases, as clearly illustrated, would greatly enhance the value of the work.

The chapter on Additions and Repairs is excellent. The author points out very clearly the importance of taking a model, for an addition, with the old denture in situ in the mouth, on the ground that the hard model does not admit of the same sinking of the plate as the relatively soft mucous membrane, and this fact he further illustrates on page 26.

The description of the addition of single teeth is complete and careful.

The proposal on page 28, with regard to the raising and re-fitting of "lowers," to cut away the bar and use the old back teeth in block, seems to us far more elaborate, and less satisfactory, than to re-make the case altogether.

The chapter on vulcanite dentures deserves careful study on the part of the reader. There is very little that is absolutely new, and a good deal that is almost too obvious to require mention, but, with the exception of the paragraph on page 38 - describing the packing of rubber—which is somewhat indistinct, the whole chapter is sensible, practical, sound and clear. We may again allude to the clearness and general excellence of the illustrations, which are quite invaluable in this portion of the work.

The chapter on "suction uppers" contains some valuable hints. The student may also glean much information from the chapter on "vulcanite uppers," especially in reference to adjustment in the mouth between the various stages in the preparation of the repair. We can also recommend the chapter on "pivoting."

The chapter on gold work does not call for much comment, we heartily endorse the author's views on the subject, and particularly the objection he urges against the many disadvantages of gold collars around standing teeth. We can accord the same unqualified approbation to the chapter on "suction gold uppers."

With regard to the observations on "sets with springs," we are inclined to coincide entirely with the author in the views he expresses, and though it is the fashion—with a large section of foreign dentists—to decry the use of springs, we, in common with the author of the present work, think that if springs were a new, instead of being an old idea, they would universally become the fashion.

In the chapter on mounting teeth, we confess we were greatly astonished to read the recommendation of the author of the very dubious practice of *punching* holes for the pins, a practice we must utterly condemn, as likely to destroy the fit of the piece, and as affording no advantages whatever over drilling the holes. With this exception, the chapter contains many minute directions, the details are carefully explained, and the whole well conceived to assist the young practitioner.

It is unavoidable that book description should occasionally go beyond what is resorted to in practice; this is not often the case

in the present volume, though we wonder whether many workmen would be found who make a practice of going through the elaborate routine of various files and glass papers, &c., suggested at page 93, in the finishing of vulcanite pieces.

While heartily commending the work to the attention of the profession, we would suggest to the author that, in a future edition, he might greatly enhance the value of his work by attending more particularly to the style of the composition and phrasing, and by a great curtailment of the Introduction, and an extension of the chapter on Regulation.

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### The Dentists' Register.

WHEN the Dentists' Bill passed from the Commons to the Lords, the registration clauses empowered the registrar to decline to register any person whose claim to registration did not appear to him satisfactory. The burden of proof rested with the claimant, and his redress on refusal lay in an appeal to the General Medical Council. The Government required that these simple but effective clauses should be replaced by the more complex registration section of the Lord President's Medical Bill, on the ground that that section, which applied equally in his lordship's Bill to Dental and to Medical registration, had been approved by the Medical Council in full session. By the change, all discretionary power was assumed to have been removed from the registrar. He had, according to the ruling of the Executive Committee (Minute, October 19th, 1878), no choice but to register any person who made, in the prescribed form, a written and witnessed declaration, to the effect that he was, before July 22nd, 1878, "engaged in the *bonâ fide* practice of dentistry, separately or in conjunction with medicine, surgery, or pharmacy." In fact, the Council caused inquiry before registration to be abandoned in favour of inquiry after registration, thereby shifting the responsibility for correctness from the registrar to the registree. But Section 13 enacts that "the General Council shall cause to be erased from the *Dentists' Register* any entry which has been incorrectly or fraudulently made."

An opportunity is now afforded to the Council of testing its powers in the administration of laws of its own choice; and, it may be, of testing the wisdom of substituting complex for simple methods of legal procedure. The British Dental Association

brought before the Medical Council, at its last session, the names of several hundred persons who had registered as engaged in the practice of dentistry with pharmacy; but who, their names not being in the *Chemists' and Druggists' Register*, could not legally practise pharmacy, and who, therefore, in the opinion of counsel (published in a late number of this JOURNAL), are liable to have their names erased from the *Dentists' Register*. The names were referred to the Dental Committee of the Council, the finding of which, as to the facts of the respective cases, is conclusive. It is said that, recently, a list of persons who have registered as engaged in the practice of Dentistry, in conjunction with medicine or surgery, but who are not registered medical practitioners, has been brought before the Council. To ascertain whether the names are, or are not, in the *Chemists' and Druggists' Register* is but clerical work, and need not occupy much time, or require the expenditure of great professional skill. The respective registers being legal evidence, it does not appear necessary to carry the inquiry further. For it cannot be urged that an illegal practice of pharmacy constitutes a legal claim to registration; and an incorrect or fraudulent declaration, witnessed, acted upon, and officially published, cannot be unmade—it is unalterable. The Act gives no power to change the substance of the declaration. Neither does it appear necessary to go into the question of extenuating circumstances; for it cannot be pretended that the pupils or unqualified assistants of registered chemists and druggists, or of medical men or others, are unacquainted with the provision in the Pharmacy Act which renders it penal for a person to practise pharmacy unless registered in the *Chemists' and Druggists' Register*. The expectation that the questions will be determined and the corrections made, before the issue of the *Register* for 1881, is quite reasonable.

If any miscarriage takes place in the administration of this part of the Act, either from imperfect framing of the clauses, or from a want of administrative power on the part of the Council, clearly the fault will not lie at the door of the Dentists, who were required to accept clauses drawn by the Government and approved by the Council. For, had the registration clauses, as they passed the Commons, been allowed to remain a part of the Act, it is probable that few, if any, of the names now under consideration would have been entered in the *Dentists' Register*. In any case, one very useful end will be gained. It is likely that any future Medical Bill will be based upon the Government Bill of 1878-79; and if the



registration clauses of the Dentists' Act (taken *verbatim* from the Medical Bill) fail from either of the above causes, the fault must be avoided in future legislation. The efficiency of that portion of the Medical Bill will have been tested at the cost of the Dental fund.—*British Medical Journal*.

### International Medical Congress.

GENTLEMEN,—In your last issue you did me the favour to give insertion to an appeal which was sent to the Members of the Odontological Society, in behalf of a Fund for the International Medical Congress. Will you add to the obligation by allowing me space to express my thanks to those gentlemen who have so kindly and promptly responded to that appeal? Up to this date the following have been received:

With renewed thanks,

Yours very truly,

EDWIN SAUNDERS,

*President Section 12.*

13A, George Street, Hanover Square.

Bacon, Mr. W. B.	...£1	1	0	Hutchinson, Mr. S. J.	... £2	2	0
Barrett, Mr. W. Ashley	... 1	1	0	Kelly, Mr. T. M. ...	... 1	1	0
Bate, Mr. C. Spence	... 5	0	0	Lindsey, Mr. J. B.	... 1	1	0
Bellaby, Mr. G. W.	... 2	2	0	Longhurst, Mr. H. B.	... 2	2	0
Bennett, Mr. F. J.	... 5	5	0	Longhurst, Mr. Sidney	... 2	2	0
Bennett, Mr. W. C. S.	... 5	5	0	Macleod, Mr. T. Bowman	2	2	0
Brand, Mr. E. E. ...	... 1	1	0	Magor, Mr. Martin	... 1	1	0
Browne-Mason, Mr.	... 3	3	0	McAdam, Mr. G. C.	... 1	1	0
Campion, Mr. Henry	... 5	5	0	Margetson, Mr. W.	... 2	2	0
Cartwright, Mr. S	... 5	0	0	Martin, Mr. John Hy.	... 5	5	0
Coleman, Mr. A. ...	... 5	5	0	Medwin, Mr. A. G.	... 1	1	0
Cormack, Mr. D....	... 2	2	0	Mitchell, F. W. ...	... 2	2	0
Cronin, Mr. A. ...	... 2	2	0	Mummery, Mr. J. R.	... 5	5	0
Ewbank, Mr. F. ...	... 2	2	0	Parkinson, Mr. J...	... 5	5	0
Fairbank, Mr. J. ...	... 2	2	0	Parson, Mr. T. Cooke	... 1	1	0
Forsyth, Mr. W. F.	... 5	5	0	Petty, Mr. Frank	... 2	2	0
Fox, Mr. S. Bevan	... 1	1	0	Roberts, Mr. T. A.	... 1	1	0
Gartley, Mr. John A.	... 1	1	0	Rogers, Mr. G. H.	... 3	3	0
Gibbings, Mr. Ashley	... 5	5	0	Rogers, Mr. Richard	... 1	1	0
Halliday, Mr. M. W.	... 1	1	0	Rogers, Mr. T. A.	... 21	0	0
Harding, Mr. Milward,	... 1	1	0	Saunders, Mr. Edwin	... 21	0	0
Harding, T. H. G.	... 3	3	0	Sewill, Mr. Hy. ...	... 1	1	0
Hayward, Mr. Howard	... 3	3	0	Stocken, Mr. J. ...	... 1	1	0
Henry, Mr. George	... 2	2	0	Tippett, Mr. J. Collins	... 1	1	0
Henry, Mr. W. T.	... 1	1	0	Tomes, Mr. C. S. ...	... 21	0	0
Hepburn, Mr. David	... 2	2	0	Tomes, Mr. J. ...	... 21	0	0
Hepburn, Mr. R. ...	... 3	3	0	Turner, Mr. J. S. ...	... 5	5	0
Hunt, Mr. W. A.	... 1	1	0	Walker, Mr. Joseph	... 21	0	0

Wallis, Mr. C. J. ...	£0	10	6	White, Mr. J. Charters ...	£1	1	0
Wallis, Mr. Geo ...	3	3	0	White, Mr. Richard ...	1	1	0
Weiss, Mr. Felix ...	1	1	0	Woodhouse, Mr. A. J. ...	21	0	0
West, Mr. Chas. ...	1	1	0	Woodhouse, Mr. R. H. ...	1	1	0
Whatford, Mr. J. H. ...	2	2	0	Woodhouse, Mr. W. H. ...	3	3	0

### GUARANTEE FUND.

Forsyth, Mr. W. F. ...	5	5	0	Rogers, Mr. R. ...	1	1	0
Harding, Mr. T. H. G. ...	3	3	0	Rogers, Mr. T. A. ...	21	0	0
Hutchinson, Mr. S. ...	3	3	0	Saunders, Mr. E. ...	21	0	0
Macleod, Mr. W. B. ...	2	2	0	Tomes, Mr. C. ...	21	0	0
Parson, Mr. T. C. ...	1	1	0	Tomes, Mr. J. ...	21	0	0

### The Odontological Society of Great Britain.

THE Annual General Meeting of this Society took place at the Dental Hospital, Leicester Square, on Monday, the 10th inst.

The PRESIDENT having declared the ballot open for the election of officers for the ensuing year, and Messrs. Isidor, Lyons and George Payne having been appointed to act as scrutineers, Mr. WALLIS showed his adaptation to dental requirements of Mr. Lennox Browne's Lime-Light Illuminator for the Laryngoscope, and explained it in detail. Ordinary coal gas was used instead of pure hydrogen, whilst the oxygen required could be either made in quantity during spare time, and kept stored for use, or could be made as required during the progress of an operation by means of Chadwick's Oxygen Generator; it cost about  $2\frac{1}{2}$ d. per hour, exclusive of time and labour, the cost of which, if Chadwick's apparatus was used, might be disregarded altogether. The cost of his own apparatus had been about £14, but then it had been made to order; if several were made at a time the price would be a good deal less. He had had it in use about two months, and had found it greatly superior to any other artificial light which he had tried. It was especially useful on foggy days, when the supply of ordinary gas was generally very deficient.

Mr. LENNOX BROWNE said that although his own original design had been greatly improved by Mr. Wallis, he did not yet consider it perfect, and as he knew that Dentists



were generally fertile in inventions, he hoped that the introduction of his apparatus to the profession would lead to its being still further improved and perfected.

Mr. HUTCHINSON said that oxygen gas could be obtained in bottles holding a hundred gallons compressed into small bulk, and he thought many would find these convenient.

Mr. WEISS stated that nitrous oxide gas could be used instead of oxygen, with nearly the same illuminating effect, and as Dentists always had this gas at hand, it might often be convenient to substitute the oxide for the pure gas.

The PRESIDENT asked Mr. Wallis whether he did not think that the bright light would be injurious to the eyesight of the operator?

Mr. WALLIS answered that he had not found it at all fatiguing to the eyes, though he had worked with it for two hours without intermission. The glare was decidedly irksome to the *patient*, but this was readily obviated by providing him with a pair of tinted spectacles.

Mr. OAKLEY COLES introduced to the notice of the members a very strong and cheap operating chair for hospital use. With movable seat, head rest, and bracket, the price was only £3 10s.

Mr. IBBETSON proposed, and Mr. E. SAUNDERS seconded, a motion that Mr. Fletcher should be elected an honorary member of the Society.

The PRESIDENT, in putting the question, said that Mr. Fletcher had been for many years an ornament to the profession, and in making him an honorary member he considered that the Society would confer as much honour on itself as on the gentleman whom they proposed to elect.

The motion was carried unanimously.

The TREASURER reported that twenty-three new Members had been elected during the year. The roll of the Society now consisted of 113 resident, 206 non-resident, and 53 honorary and corresponding Members.

Mr. WEISS then stated that the Library was in a very satisfactory condition.

The SECRETARY read the Curator's report. During the past year the work of re-arranging the museum, and preparing a new edition of the catalogue had been completed by Mr. Willoughby Weiss, with the assistance during the early part of the year of Mr. Bernard Magor.

The Scrutineers announced that the list of officers proposed by the Council had been unanimously approved of by the Society.

The PRESIDENT then proceeded to deliver his valedictory address, which will appear in our next issue.

After which, MR. E. SAUNDERS proposed that the best thanks of the Society be given to Mr. Woodhouse for his constant and punctual attendance, and for the admirable manner in which he had invariably guided the business of the various meetings.

The PRESIDENT having acknowledged the vote, proposed that the thanks of the Society should also be given to the Treasurer, Librarian, Curator, and to the Secretaries, to the latter of whom he personally wished to express his great indebtedness.

Mr. PARKINSON and Mr. HUTCHINSON replied.

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### Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

GENTLEMEN,

Is Advertising "infamous or disgraceful conduct in a professional respect?" I hold that it most decidedly and undoubtedly is; and I feel I am not alone in this opinion, but that I am expressing the sentiments of the whole of the educated portion of our profession. That the various Surgical Colleges look upon advertising in this light may be gathered from the fact of their not admitting candidates without their signing a declaration to the effect that they will not advertise their profession, &c. The Royal College of Surgeons of England will not admit candidates (and

rightly so too) to its examinations for its Dental Diploma, *sine curriculo*, who have advertised since 1859.

The Odontological Society, in Rule III. of its Bye-Laws, lays down very stringent restrictions with regard to advertising, and does not consider any eligible for membership whose professional conduct does not accord with this rule. The British Dental Association which is the most lenient of any of the Societies as regards the admission of members, has a rule which is quite as restrictive as Rule III. of the Odontological Society, and has made it the very first rule in its list of Bye-Laws. I think I have brought forward sufficient evidence in proof of my statement; and will now consider the Dentist Act, and see how it treats this degrading and nefarious practice.

In Section XIII., after speaking of the erasure of entries incorrectly or fraudulently made, it goes on to state that those guilty of felony or misdemeanour, and adds, "or been guilty of ANY *infamous* or *disgraceful* conduct in a PROFESSIONAL respect, that person shall be liable to have his name erased from the register." In the next clause the act goes on to explain the manner in which the erasure shall take place.

The power appears to be placed in the hands of the General Council, for it states that, "The General Council may, and upon the application of any of the Medical Authorities shall, cause enquiry to be made," &c., so that it would appear that it has the power to make the enquiries on its own responsibility if it feels so disposed, and then again, "on proof of such infamous or disgraceful conduct shall cause the name of such person to be erased from the register." Then further on, part of this section appears to be modified lightly, viz., "Provided that the name of a person shall not be erased under this section on account of his adopting or refraining from adopting the practice of any particular theory of dentistry or dental surgery, nor on account of a conviction for a political offence out of Her Majesty's dominions, nor on account of a conviction for an offence which, though within the provisions of this section, does not, either from the trivial nature of the offence, or from the circumstances under which it was committed, disqualify a person for practising dentistry."

I think it will be seen from a careful perusal of the above extract, it does not do away or interfere with the penalty

for "infamous or disgraceful conduct in a professional respect," and carrying on practice by means of advertisements could not be considered for one moment as an offence of a trivial nature; considering that the whole of the medical authorities view it in the very opposite light.

If the Dentists Act can succeed in putting down the advertising which has dragged our profession so low in the mire, it will do glorious work, not only for the profession, but for the public at large; and from a careful perusal of it, it appears to me to be framed with that object.

I am sure it is disgusting to walk through the streets of London, or indeed of any town in England, and see the exhibitions of teeth, mounted in the vilest manner on plates of tin gilded over, the mechanical moving wax-work heads, the red lamps, with hands pointing "This way up." One cannot sit down to dine now, but upon asking the waiter for a tooth-pick, one is handed to you with a dentist's name and address emblazoned thereon; and after one has studied and received a recognised Dental education in one's profession, to be classed by the indiscriminating public on the same level with such men, is revolting in the extreme.

I am a staunch supporter of the British Dental Association, and am anxious to see it do some good work. On asking men to join that Society, which I frequently do, I am met by the query, "What have they done? Have they stopped this disgusting advertising? When they have done that I will join." Well, I believe it is in the power of the Association to do so, for unless I read it wrongly, the Act gives them the power. Some say, "Oh, but we cannot interfere with existing rights!" I, for one, am heartily sick of that phrase, and if advertising is wrong, it cannot be right, so that I deny that there are any existing rights about it at all—they are existing WRONGS. I would suggest that the Association should place the matter before the Medical Council, having first obtained the opinion of their legal adviser on Section XIII. Then I would suggest that a notice should be sent to every advertising Dentist, to the effect that unless within a certain date he desisted from the practice of advertising, either by means of public advertisements,



circulars, show-cases, red lamps, &c., his name will be erased from the Register. The profession would be at once rid of the opprobrium of this detestable practice, and the British Dental Association would gain the respect and support of every respectable member of our profession.

Yours truly,

GEO. HILDITCH HARDING, L.D.S., Eng.

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ON THE "REPLANTATION OF TEETH," BY J. RENSHAW,  
L.D.S., R.C.S.

SIR,—I have read the not very clearly expressed article in your issue of December 15th, on the "Replantation of Teeth," by Mr. Renshaw, L.D.S.I., and I must say I am not altogether surprised at the failure of even Mr. Renshaw's most "successful case."

I gather from the sentence in which he says that he "was the more astonished at the presence of an alveolar abscess, inasmuch as the periosteum and pulp were removed," that he scraped the fang, thus denuding it of its periosteum or peridental membrane. Every Dental Surgeon knows that a tooth derives its life from two sources, viz., externally from the peridental membrane or periosteum, and internally from the nerve and artery which enter at the apex of the fang. By this treatment he deprived the tooth of its only remaining chance of vitality, seeing that its internal source of life was cut off by its extraction. Mr. Renshaw seems to be unaware of the theory (I say theory, because to my personal knowledge there has been no case in which the matter has been practically decided) that union takes place again between the ruptured particles of the membrane, and that a tooth is held in the jaw by other means than that of the gum.

Mr. Renshaw says in another part of his article, "I examined the mouth and found the biting surface of the said tooth worn down to the pulp canal by its antagonism with the lower teeth, as the tooth was otherwise sound," &c. May I ask if Mr. Renshaw has ever heard of Dentine of Repair? My experience has been that as the pulp is gradually encroached upon by trituration, dentine of repair is developed, and thus the pulp does not become exposed. I have never heard of the pulp being exposed by the very slow process referred to. Such being the case, why did Mr. Renshaw recommend extraction and replantation? surely the tooth would have been more serviceable had it been allowed to



remain in the mouth, the dentine of repair being quite sufficient to protect the pulp from injury.

Faithfully yours,  
L.D.S. Eng., by Curriculum.

TO THE EDITORS OF "THE MONTHLY REVIEW OF DENTAL SURGERY."  
GENTLEMEN,—Permit me to call your attention to a somewhat erroneous statement in the last number of the "Review." At p. 602, in a paragraph respecting the Dentists' Register it is said, "2,707 practice Dentistry separately, and 2,049 practise Dentistry in conjunction with Pharmacy. The two latter classes are without Dental or Medical qualifications, &c., &c." Now, doubtless there are several of us belonging to the first of these two classes, who possess Medical or Surgical qualifications, but as we practise Dentistry *only*, we could not, of course, register ourselves as practising it "in conjunction with Medicine or Surgery." As, however, all Medical and Surgical qualifications are in the present Register, absolutely ignored in the case of those who practise Dentistry separately, there are no means (in the Register itself) of distinguishing their holders from those who possess no professional qualification whatever. It is to be hoped that, in future in issues of the Register, this glaring injustice and absurdity will be remedied.

I remain, Gentlemen,  
Yours obediently,

HENRY LONG JACOB, M.R.C.S., Eng.

Birkenhead, *December 18th*, 1880.

NOTE.—Mr. Jacob appears not to be aware that the exclusion of Medical and Surgical Qualifications from the Register is the result of the interpretation put upon the wording of the Act by the legal advisers of the Medical Council, and that it is therefore not in the power of that body to insert them without an alteration in the wording of the Act by Parliament. But at the last General Meeting of the British Dental Association there was a general consensus of opinion that it would be fair and desirable that this should be done if practicable.

### The Dental Students' Dinner.

THE Annual Dinner of the past and present students of the Dental Hospital of London, was held on Tuesday, the 7th of

December, at St. James' Hall. Mr. Robert Hepburn took the chair. The attendance was very large.

After the Royal toasts and the Army and Navy had been proposed and responded to, the chairman proposed, "The Past and Present Students."

The CHAIRMAN spoke of the pleasure which he felt in seeing around him the faces of so many who had helped to lay the foundation stone of the present position which the Dental student held—the charter of registration, and alluded warmly to the work of Mr. Tomes, whose name was received with enthusiasm. He pointed out that the diploma was as difficult and as costly to obtain as the membership. He alluded to Mr. Hill's history of the battle that had been fought for the profession by its leaders, and pointed out the responsibility that rested on the shoulders of those whose business it would be to carry on the work so well begun.

The toast was responded to by Mr. LAURENCE READ and Mr. AMOORE, who both spoke in warm terms of the careful surveillance of the staff, the kindness of the Dean, and the unwearying care and skill of the demonstrator, Mr. Claude Rogers.

Mr. CARTWRIGHT proposed, "The Medical School and Lecturers," reminding the audience of the benefits the present students derived from the Institution as compared with their less fortunate forerunners.

Dr. WALKER in responding, expressed the readiness with which he and his fellow lecturers were prepared to make smoother the thorny paths of the acquirement of professional knowledge, and thanked those students who were then under his care, for their attention and diligence.

Mr. UNDERWOOD proposed "The health of the Chairman," which was received with loud and prolonged applause, and drunk with musical honours.

Mr. CARTWRIGHT then proposed the health of the singers, and Mr. David Hepburn in responding, alluded strongly to the kind assistance afforded by the two guests, Mr. Bell, and Mr. Arthur Wood. The meeting then dispersed.

During the evening some charming music was performed by the choir, assisted by Messrs. Bell and Wood, including some amusing selections from "The Sorcerer."

After the toast the choir performed some selections from Arthur Sullivan's opera of "The Sorcerer," including a solo by Mr.

Frederic Canton, "Time was when Love and I," and one by Mr. Alfred Smith, "For love alone." The chorus was supported by Messrs. Smith, Bell, A. Underwood, Bradshaw, Robbins, Rees, Price, and David Hepburn, and Mr. Arthur Wood accompanied on the piano, and sung the "Declaration of Aline," in a manner that "brought down the house."

Mr. W. ASH then proposed the "Dental Hospital and Staff," alluding to its long struggles and triumphs, coupling with the toast the name of Mr. Ferguson, who replied on behalf of the staff.

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### Western Counties Dental Association.

THE December Meeting of the Council of this Association was held in Exeter on Saturday, December 11th, at the Dental Hospital in Bedford Circus, G. T. Parkinson, Esq., of Bath, in the chair. Subsequently the ex-Mayor of Exeter, Wm. Horton Ellis, Esq., who is the President of the Dental Hospital, entertained at dinner at his residence, Hartwell House, the Committee of Management and Medical Staff of that Institution, and the officers of the Western Counties Dental Association. Amongst those present were the Mayor, Sheriff, Mayor's Chaplain, and Town Clerk of Exeter, the President (G. T. Parkinson, L.D.S., Eng.), President elect (T. Cooke Parson, M.R.C.S., Eng.), and Vice-President (C. Spence Bate, F.R.S., L.D.S., Eng.), of the Western Counties Dental Association, Sir Antonio Brady, Aldermen Thomas and Jones, and of the Staff of the Dental Hospital, Messrs. Arthur Cumming, F.R.C.S., Eng.; W. A. Budd, M.R.C.S., Eng.; J. T. Browne-Mason, L.D.S., Eng.; S. Bevan Fox, L.D.S., Eng.; Henry B. Mason, L.D.S., Eng., and C. Norman King, L.D.S.I.

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### Obituary.

WE deeply regret to learn, on going to press, of the recent death of Mr. Norman King, of Exeter, where he had filled the office of Mayor, and had for many years been Justice of the Peace of that city. Mr. King was admitted a member of the Odontological Society in 1863, and was a non-resident member of Council in 1866-67. A full notice will appear in our next issue.

### Appointments.

Storer Bennett, L.R.C.P. Lond., M.R.C.S. Eng., L.D.S. Eng., to be Assistant Dental Surgeon to the Dental Hospital of London.

At a meeting of the management of the Aberdeen Dispensary on the 30th, Mr. W. P. Robertson, 24, Crown-street, was appointed Dental Surgeon, Dr. W. H. Williamson, resigned.

### Dental Hospital of Exeter.

At a meeting of the Council of the Royal College of Surgeons of England, held November 11th, it was decided, in accordance with a recommendation of the Board of Examiners in Dental Surgery, to recognise attendance on the practice of the Dental Hospital of Exeter as qualifying for the Dental Diploma of the College.

### Annotations.

#### LOCAL TREATMENT OF CANCER.

In the *Medical Times and Gazette*, for May, 1879, Dr. James Arnott offers some instructive remarks on the use of cold as a local treatment in cancer. He prefers it to either excision or the cautery, and quotes some very decided expressions of Professor Broca in favour of his view. Cold, heat (cautery) pressure and the knife are, he says, the only local ways of treating cancer, the knife is uncertain, because we never know whether we have removed all the mischief; the cautery is rarely very successful, but pressure and cold are efficient, theoretically sound, and can be easily combined. Cold relieves the pain more completely and for a longer period than opium, and without the other disagreeable physiological effects of the drug. Cold may after protracted application destroy the growth altogether.

The writer quotes a case published by Mr. Simon (Lond. Path. Soc. trans. vol. v.) of cancer of the breast, treated at St. Thomas's Hospital by ice, and cured. The tumour was the size of an orange, and the pain was constant and severe. Ice was applied every day for an hour or two, the tumour rapidly decreased, and in 34 days was no longer perceptible and the pain was gone. Cold is more effective when combined with pressure, the cold prevents irritation from the pressure, and the pressure facilitates the extension of the cold. The remedy does not disturb the constitution like opium, nor imperil life like excision.

It is obvious that both the elements of Dr. Arnott's treatment, cold, and pressure, aim at hindering the nutrition of the part by interfering with its blood supply—and probably do so more effectually than any other



method of attaining the same end that has been attempted, namely, tying the vessels supplying the growth, a treatment that is neutralised by the rapid setting up of collateral circulation. That such interference with the nutrition of the growth, if successful, may be reasonably expected to arrest its malignancy, is in accordance with the most recent views of the nature of malignancy. Mr. Savory pointed out some years ago that all growths are at first embryonic, that they may afterwards degenerate (retrogressive development), the course adopted by inflammatory growths; or they may develop into a higher tissue (progressive development)—the course adopted by innocent growths, or lastly, they may remain always embryonic and simply proliferate—the course adopted by malignant growths. Now if their vascularity and consequent nutrition is interfered with, they can neither develop nor proliferate, nor be very painful. Moreover, as the reappearance of such growths in other parts depends entirely upon the carrying off of portions of the growth by the circulation, to interfere with circulation is to interfere with this phenomenon also, and it would seem that freezing and pressure are more likely to attain this end in virtue of the fact that they destroy the capillary and venous circulation, as well as the arterial. The method is well worth a trial in epithelioma of the tongue. Experience has shown that the results of excision are seldom permanent, while the temporary relief from pain obtained by neurotomy is worth nothing compared with the results of cold. Trousseau advocated tying the carotid in trigeminal neuralgia, rather than neurotomy or neurectomy on similar grounds, namely that to interfere with the nutrition of a part was a surer method of depriving it of sensation than to divide the centripital nerves which are soon reunited again.

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#### ACUTE SEPTIC POISONING FROM A LEECH-BITE.

Professor Kocher, of Berne, relates the following unusual case in a Swiss medical periodical. A gentleman, suffering from toothache, applied to a dentist in Bern, who recommended the application of leeches to the gum. This was accordingly done on June 27th, the leeches being applied to the gum on the affected side. Very soon after the application, the gentleman—who, with the exception of the toothache, had previously been in good health—began to feel ill; and in two hours the lip on the affected side was much swollen. Medical aid was not sought until late in the evening of the next day. There was slight œdema of the cheek, and dyspnœa; but examination of the chest only gave a negative result. The temperature was 102.2° Fahr. The next morning (June 29th), the dyspnœa had increased; there was much swelling of the cheek, and considerable exophthalmus. The temperature was 102.2° Fahr., but fell in the evening to 98.6°. The patient was then delirious, had severe dyspnœa, an ashy yellow countenance, blue lips, and cold limbs; he was in a state of collapse. The left cheek



showed a diffuse colourless swelling, extending towards the ear and the angle of the jaw. The left eye was much protruded and completely fixed; there was considerable chemosis, with subconjunctival ecchymosis. There was swelling with ecchymosis in the left frontal region. On the gum there was a leech-bite with dark sloughy edges; and here and on the edge of the gum a brownish ichor with bubbles of gas could be pressed out. The patient died soon after this last examination was made. The *post-mortem* examination was made by Professor Langhaus, in the presence of Professors Lichtheim and Kocher. It revealed œdematous and sanguineous infiltration of the areolar tissue, with purulent foci, on the anterior surface of the left upper jaw and of the forehead, and of the orbital cellular tissue; phlebitis of the anterior facial vein, with a purulent deposit on the lining membrane, but no thrombi; a recent swelling of the lymphatic glands at the angle of the jaw; a recent splenic tumour; numerous metastatic foci in both lungs, with fibrinous pleuritis on the right side, and ecchymoses on the pericardium. Professor Kocher says that there can be no doubt death was caused by acute sepsis in the form of embolic pyæmia: and that it had its origin in a leech-bite. It is, however, a question whether the wound was poisoned by the leech itself, or subsequently from some accidental source. As swelling was distinctly ascertained in two hours, and ran a very rapid course, the idea of accidental poisoning by decomposed secretion from the wound is quite untenable.—*British Medical Journal*, October 16th, 1880.

#### ANTISEPTIC TREATMENT OF ALVEOLAR ABSCESS.

In the August number of the *Monthly Review of Dental Surgery*, I published the results of a number of cases of alveolar abscess, and wholly or partially dead roots, that I had succeeded in rendering aseptic by means of injections, or dressings, of eucalyptus oil and iodoform. The results of my endeavours to apply the antiseptic principle to the treatment of these dental disorders went far beyond my most sanguine expectations; the most obstinate and old-standing alveolar abscesses yielded with astonishing rapidity, and I succeeded in preserving roots that, I think, might have been fairly considered as almost hopeless. I am, however, afraid that I failed to make myself sufficiently clear in the article in question, as I have since received a good many letters asking me for further explanation touching certain points in the treatment which I proposed.

Those who have carefully followed the antiseptic theory as practised and taught at King's College by Professor Lister and Mr. Cheyne, will find no difficulty in believing that, if an inflamed tract can be rendered aseptic or free from, and inaccessible to, germs, that tract will heal; in fact, that it cannot help healing; moreover, if a slough be rendered aseptic, it will not be ejected from the economy by the violent methods

of inflammation and suppuration ; but, being no longer an irritant, nor in any sense behaving as a foreign body, it will be removed, imperceptibly and gradually, by absorption, and replaced, as imperceptibly, by new and healthy tissue. This will happen as certainly in the case of the dead contents of a pulp cavity as it will in the case of a slough on the leg or arm, if it can be rendered aseptic. Of course, if the contents of a pulp cavity be suppurating, and the slough, with its living mass of bacteria, be shut up intact by means of a stopping, an alveolar abscess must ensue ; equally certainly, if the bacteria be destroyed, and the stopping inserted, the healing process will be accompanied with no disturbance whatever ; the only difficulty is, to find an agent capable of effecting the destruction of the germs. Carbolic acid would do this, but there are two objections to its use in this situation : 1. If used too strong, its destructive effects upon the tissues are too great ; 2. If used diluted, its effects are too transient. Now, eucalyptus oil and iodoform are antiseptic agents of a much more powerful and permanent kind, and they cause no irritation or destruction whatever to the tissues ; these are the considerations which led me to select these agents.

The two points upon which I have not made myself sufficiently clear, are—1. The method of applying the re-agents ; and 2. The proportions in which I would use them.

With regard to both points, they depend entirely upon the nature of the case. Either may be used alone, or both together, in any proportions most convenient in the case in hand ; where it is necessary to inject, the oil must be used alone. In the case of alveolar abscesses, the best plan is to inject the oil every day with a hypodermic syringe, or any other syringe with a sufficiently small nozzle, the root of the tooth being dressed with wool dipped first in the oil and then in the iodoform. The iodoform will stick to the wool, and subsequently dissolve in it ; there is no need to put any mastic or other protecting material over the dressing, as the oil retains its power for several days when unprotected. In the case of a nerve that is partly dead, the cavity may be dressed with wool dipped first in the oil and then in the iodoform, and applied just as creasote would be, with this difference, that it is quite unnecessary to remove much of the dead tissue. Since the publication of my first article, I have had a good many cases confirming my previous results ; and my friend, Mr. David Hepburn, has also found the treatment very rapidly successful in the case of a very old-standing and tortuous alveolar abscess, that had long been a source of great discomfort to the patient. I am going to try the effect of a composition first suggested by Mr. Watson Cheyne, of King's College, and used by him in the form of bougies for the treatment of gonorrhœa (*British Medical Journal*, July 24th, 1880). These bougies are composed of cocoa-nut butter, iodoform, and eucalyptus oil, and melt at the temperature of the body (they can be obtained at Bell's, in Oxford Street). I shall cut a small piece off

the bougie, and insert it into the pulp cavity over the dead tissue without any wool, and cover it over with a gutta-percha stopping; this proceeding, if successful, will obviate the presence of the wool, and will, of course, be a great advantage.—ARTHUR S. UNDERWOOD, M.R.C.S. L.D.S., Bedford Square.—*British Medical Journal*, October 16th.

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#### INDUCTION OF ANÆSTHESIA BY THE APPLICATION OF CHLOROFORM TO THE SKIN.

In continuation of his investigations on this subject, Professor Brown-Séquard has laid before the Biological Society (*Gaz. Hebd.*, November 26), the results of some experiments which he has made in order to determine the part which the cutaneous nerves play in the production of the singular phenomena described in our last number. After having divided transversely, in several guinea-pigs, the medulla opposite the ninth dorsal vertebra, he applied chloroform to one side of the sacrum and of the abdomen—i.e., the parts receiving their nerves from the portion of the medulla separated from the brain. In other guinea-pigs, in which the same division of the medulla had been made, the chloroform was applied to the side of the thorax and neck. It is plain that if the inhibitory effects described resulted from the passage of the chloroform into the blood, or from some modification produced in the blood of the cutaneous capillaries, they ought to be observed equally well whether the application of the chloroform was made in front of or behind the lesion of the medulla. But these effects in fact were absent in the first of these two conditions, while they were present just as if the medulla had not been injured in the second—so that they are produced not through the intermedium of the blood, but by that of the nervous system. In like manner the congestion of the intestines and other abdominal viscera, which are seen when chloroform is applied to the skin of animals in which the medulla is uninjured, is not found when the application has been made behind the section. The application of chloroform behind the section made at the ninth or tenth dorsal vertebra determines the inhibition of the reflex faculty of the dorso-lumbar enlargement of the medulla; and the power of the medulla over muscular tonicity is lost on the side of the application, the wall of the abdomen becoming much more distended than on the opposite side.

In other experiments Professor Brown-Séquard sought to ascertain whether the transmission of cutaneous irritation to the brain may take place in the same way, whichever be the side to which chloroform is applied, in guinea-pigs that had undergone hemisection of the cervical medulla. After performing the operation opposite the second cervical pair on the right side (and having ascertained, as usual, the presence of hyperæsthesia on the right side of the body, and of anæsthesia on the left side), he applied chloroform to the right side in some

guinea-pigs, and to the left in others. He found that all the cerebral, cardiac, and respiratory phenomena described in his former paper were rapidly produced in the first case, while in the other they came on much slower, and in a feeble degree, so that chloroform applied to the hyperæsthetic side acted very energetically and rapidly, while that on the anæsthetic side did so only slowly and feebly. Moreover, applied on this last side, it did not produce the congested condition of the intestines and other abdominal viscera which are observed in animals in which there has been no lesion of the medulla.

By other experiments Professor Brown-Séquard has shown the possibility of killing animals in perfect health by applying chloroform to the skin. He found that in all cases in which that liquid had induced loss of consciousness, anæsthesia, and a notable diminution of the temperature, of the movements of the heart, and of the respiration, death may be certainly produced by continuing to pour chloroform on the skin. Animals may almost always be placed in this dangerous condition of stupor and general resolution which will lead to death if the application of chloroform be continued. Some animals however, have proved refractory, but even in these a portion of the phenomena which are generally produced is observed.

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#### JAMIESON'S GOLD.

A further trial of Jamieson's Gold confirms the favourable opinion we have previously expressed upon it. To those practitioners who confine themselves to non-adhesive work it is invaluable, and commended by some who have employed it adhesively. Messrs. Jamieson can make their cylinders of any size to suit the requirements of any kind of work.

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ERRATUM.—Page 560, line 8, for the words “platina dentine,” read *platina denture*.

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#### TO CORRESPONDENTS.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.



# THE JOURNAL

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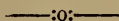
# BRITISH DENTAL ASSOCIATION

### A

### *MONTHLY REVIEW OF DENTAL SURGERY.*

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OF THE  
BRITISH DENTAL ASSOCIATION  
A  
*MONTHLY REVIEW OF DENTAL SURGERY.*

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POSSESSED of a selection of professional opinions upon the interpretation of the restrictive clauses of an Act of Parliament, the sanction of the Solicitor-General to comparative inaction would of necessity be accepted by a public body in the position of the Medical Council. The probable inability to clear the Register of a host of persons whose right to registration is more than doubtful, and who accidentally escaped the test of a statutory declaration, was acknowledged by members of the Council with strong expressions of regret.

The effects upon the Dental Profession of the decision of the Council are set forth with clearness in the report of the meeting of the Representative Board, and need not be here repeated. The accompanying suggestion as to the course open to the Association respecting the expurgation of the Register will meet with general approval; more especially the acceptance of the opinion of the Solicitor-General and his colleagues, as a settlement of the question of erasure on the ground of a false declaration respecting the practice of medicine, surgery, or pharmacy. But for the authority which attaches to the judgment of a legal adviser to the Crown, it would, as pointed out by Professor

Turner, be difficult to accept the opinion that the words "either separately or in conjunction with medicine, surgery, or pharmacy," are to be read as meaning *whether separately or in conjunction with medicine, surgery, pharmacy, or any other calling*. Such certainly was not the meaning intended either by the promoters or the professional draughtsmen of the Bill. Neither was it so read by the chemists represented by the Pharmaceutical Society, and the Society of Chemists and Druggists, who, until by their pressure, the word pharmacy was added, considered that chemists practising dentistry were excluded from registration. Nor was the phrase so read by the medical press, which has never ceased to blame the promoters of the Act for allowing the introduction of the word pharmacy, a word which it is now held to be, with its associated words, without meaning. The sentence of which they formed a part was completed, so far as it has meaning, at the words dental surgery.

To very many lay, and some legal minds, the interpretation accepted by the Council is suggestive of what, doubtless, many members of Parliament would consider, that this vexatious phrase should mean rather than what it does mean.

The general reading of the clauses, backed by Counsel's opinion, fully justified the Association in suggesting the personal withdrawal from the Register of those who had illegally claimed to practice pharmacy in conjunction with dentistry. Restoration to the Register, without fee, is offered to those who so withdrew, subject, however, to the "discretion of the Executive Committee as to the grounds on which their names were removed, and the grounds on which registration is claimed."

In the course of the discussion Mr. Simon, with great point, said: "He bowed unreservedly to the legal opinion,

but he hoped the resolution would be so framed as to show that the Council was simply acting mechanically in obedience to the law," and, further said "that in his opinion evidence in a medical sense had been adduced to justify the removal (of names) but in a legal sense it had not."

Unqualified persons were required to sign a declaration in the form of the Schedule to this Act *or to the like effect*. The supposed power of variation given in the latter words is pronounced to be a misconception, and the words, "to the like effect," are ruled to have no meaning. Furthermore it is determined by the Council, that as the Dentists' Act gives no power to ascertain the possession or authenticity of other than Dental qualifications, the Solicitor-General's recommendation of their erasure shall, as Mr. Simon remarked, be mechanically followed.

We confess to great surprise and disappointment at this decision, which to our mind renders nugatory the last part of Section II. (2) which says, subject to the provisions of this Act, the Register "shall contain such particulars and be in such form as the General Council from time to time direct."

In the presence of the well known facts that the Dentists' Bill was drawn by an eminent parliamentary draughtsman, and that the subsequent amendments constituting more than half of the whole text of the Act were drawn and incorporated by the draughtsman of the Government Medical Bill, Dr. Quain's supercilious taunt about amateur legislation, is justified neither by a due regard to the attendant circumstances, or a kindly feeling towards those who have been earnest workers in the cause of professional education. Blame may rest somewhere, but certainly not with the dentists, who had no choice but to accept amendments, which were required by a resolution of the Council

proposed by Dr. Quain. In fact the Bill when it left the House of Lords might, without substantial errors, be described as a Government Bill, approved by the Medical Council. With every desire to purify the admitted abuse of the Register, the Council acted under a selected legal opinion, which they accept, as determined law appears almost helpless.

Dr. STORRAR, of those present at the meeting, alone suggested a remedy, but whether the statutory declaration could be applied to registered persons was not discussed, and the suggestion passed without comment.

That no reference was made to the use of this protection against fraud by the Executive Committee, when they directed the Registrar to enter the names of all who signed the Schedule, must now be a matter of regret, as must be the haste in the completion of the registration, when a simple record of the date of application of a crowd of persons would have fully secured their rights, and given time for the use of the prescribed remedy against fraud.

We can all be wise after the event, and say what should have been done, but a higher degree of wisdom will probably be shown by devoting our best energies to the production of a body of fully educated practitioners, who will speedily by the exercise of superior knowledge, reduce to a vanishing point the temporary advantage which incompetent persons have gained by a rush upon an insufficiently guarded register. In the midst of the conflict of opinions, it will be a matter for congratulation that neither the funds of the Association nor the resources of private individuals, have hitherto been wasted in litigation, the result of which in the presence of conflicting legal opinions, would have been somewhat doubtful.

Dabblers in Dental Surgery in conjunction with other



callings have been very numerous, and to draw the line of just exclusion from registration presented very great if not insuperable difficulties. It is better that many pretenders should remain on the Register than that one *bonâ fide* practitioner should be deprived of his just rights. For, when fully understood, registration on the ground of having been "in practice before July 22nd, 1878," assures to the practitioner and patient nothing beyond the protection of the latter from legal molestation in the conduct of his practice, leaving the question of professional knowledge and reputation as absolutely untouched as does a name, address, and profession in a general Directory.

Dr. HUMPHREY alludes regretfully to the saying—that if it is right a thing should be done, and you wish to do it, get an Act of Parliament and you will be prevented. This will not apply to the Dentists' Act. The most that can be said is, that our ship is by misadventure fouled at starting with barnacles, which may lower its rate of sailing, but are powerless to prevent its arrival at the destined post. The Apothecaries in 1815, and the Pharmacists in 1868 could not avoid similar encumbrances. We shall see what the "Teachers" will do. In all educational measures our hopes and interests are centred principally in our successors, and the accession to our ranks of 104 qualified men as the product of the past year 1880, will go far to make up for any disappointment we have hitherto had in the reading and administration of the cleansing clauses of the Dentists' Act.

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WE would call the attention of our readers to the exceptional character of the contents of the present issue of our JOURNAL.

The importance of the discussion that has recently occurred at the General Medical Council, can scarcely

be over-estimated by the Dental Profession, and we have thought it our duty to place upon record in our own pages a full and precise account of all those points that have been submitted for Counsel's opinion.

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### International Medical Congress.

THE undermentioned gentlemen have been nominated as members of Council in Section XII., *Diseases of the Teeth*.—C. H. Bromley, Esq., Southampton; H. Campion, Esq., Manchester; S. Cartwright, Esq., London; A. Coleman, Esq., London; D. Corbett, Esq., Dublin; W. Hunt, Esq., Yeovil; G. A. Ibbetson, Esq., London; F. B. Imlach, Esq., Edinburgh; J. H. C. Martin, Esq., Portsmouth; J. R. Mummery, Esq., London; T. A. Rogers, Esq., London; Dr. John Smith, Edinburgh; J. S. Turner, Esq., London; T. Underwood, Esq., London; C. Vasey, Esq., London; Dr. Joseph Walker, London; Dr. J. C. Woodburn, Glasgow; A. J. Woodhouse, Esq., London.

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THE following is the proposed list of subjects for discussion in Section IV. *Medicine*: 1. Localisation of disease in brain and spinal cord, so far as pathognomonic and diagnostic. 2. Trophic changes of nerve origin. Vascular changes, functional and organic, in disease. 4. Primary diseases of the lymph system. 5. Gout, rheumatoid arthritis, and rheumatism. 6. Forms of renal diseases (Bright's diseases). 7. Methods of physical diagnosis. 8. Therapeutic methods; Revulsions, Blood-letting, Diet-cure, Uses of Heat and Cold, Drug cure, &c.

All communications regarding Section IV., should be addressed to Dr. ORD, 7, Brook Street, Grosvenor Square, London, W.

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THOSE who are desirous of contributing papers to the Dental Section of the Congress are reminded that to ensure the successful organisation of the business of the Section, and the publication of the programme some time in advance of the Meeting early notice of their intentions is quite necessary, and they are earnestly requested to communicate the titles of their papers as speedily as possible to CHARLES S. TOMES, Hon. Sec. of Section XII., 37, Cavendish Square.

## FUND.

## ADDITIONAL DONATIONS.

Agnew, Mr. Joseph (Glasgow) ... ..	£5	5	0	Randell, Mr. Edward ...	£1	1	0
Brownlie, Mr. James R. (Glasgow) ... ..	2	2	0	Thompson, Mr. W. Finley	1	1	0
Foran, Mr. J. C. ... ..	1	1	0	Underwood, Mr. Thos. ...	3	3	0
Hill, Mr. Alfred ... ..	3	3	0	Underwood, Mr. Thos. (guarantee) ... ..	2	2	0
Hockley, Mr. George ... ..	1	1	0	Underwood, Mr. T.F. Ken	2	2	0
Ibbetson, Mr. G. A. ... ..	10	10	0	White, Mr. R. Wentworth	1	1	0
				Woodruff, Mr. W. H. ...	3	3	0

## General Medical Council.

A SPECIAL session of the Medical Council for the purpose of forwarding the "Dental business" was opened on the 3rd instant, with the following address by the President:

Gentlemen,—I cannot but regret that it has become my duty to summon the Council at this inclement season for the special purpose of business connected with the Dentists Act, 1878. It is to be noted that this is the first occasion on which the Council has been called together for this new duty imposed upon it by Parliament. The reason for your meeting depends on the fact that a question has been raised as to the accuracy of the Dentists' Register in over 500 cases. It seemed improper to delay to a later period of the year, when the Council would meet for its ordinary business, the publication of the Dentists' Register for 1881 in a corrected form.

On July 15th, 1880, memorials from the Association of Surgeons Practising Dental Surgery, from the British Dental Association, and a letter from the Honorary Secretary of the British Dental Association, stating the grounds on which it was considered that a large number of persons should have their names erased from the Dentists' Register, were referred to the Dental Committee by the General Medical Council, that they might ascertain the facts of these several cases named in such memorials and letter. At meetings of the Dental Committee, held since that period, after prolonged deliberations with the solicitor to the Council, reports have been drawn up, which will now be presented to you.

It is hardly necessary to remark that in the preparation of these reports every care has been taken to ascertain the facts; and opinions of counsel were obtained on such points as appeared to be open to question. The Council is now called upon to decide whether, upon the facts stated in these reports—which facts, under Clause 15 of the Act, are conclusive for the purpose of the exercise by the Council of its powers under the Act—all or any of the persons whose cases are reported upon should or should not be erased from the Dentists' Register. One person, on

whose case the General Medical Council has to decide, is summoned to appear this day at four o'clock.

It is not my intention to bring before the Council any business other than that for which it was my duty to summon it; and, under the standing orders, other business can be brought before it only by resolution of the Council.

The President concluded by speaking in feeling terms of the loss which the Council had sustained by the death of Dr. Andrew Wood, one of its original members, and Chairman of its Business Committee.

On the conclusion of the President's address, Sir WM. GULL moved a resolution of condolence on the part of the Council with the widow and family of the late Dr. Andrew Wood. This was seconded by Sir JAMES PAGET, and unanimously agreed to.

Dr. HUMPHREY then moved the election of the Business Committee consisting of Dr. Pitman, Dr. Haldane, and Dr. Aquilla Smith. Dr. Pitman acting as Chairman.

Mr. TEALE seconded the resolution, and it was at once agreed to.

Dr. QUAIN then proposed, and Dr. AQUILLA SMITH seconded, a motion for the appointment of an Executive Committee, and the following members were selected by ballot: Sir James Paget, Dr. Pitman, Dr. Humphrey, Dr. Haldane, Dr. Aquilla Smith, and Dr. Quain.

The Council then proceeded to deal with the special business of the session; the report of the Dental Committee on the corrected "*List of persons stated to have illegally declared themselves to be engaged in the bonâ fide practice of Dentistry with Pharmacy,*" which had been submitted to the Council by the British Dental Association being formally received, and ordered to be entered on the minutes. The following is an abstract:

(1.) Eight of these individuals were, at the time of making their declaration, *bonâ fide* practising as Dentists separately, seven of them being incorrectly entered on the Register as in the practice of Dentistry "with Pharmacy."

(2.) That 116 were registered on their declaration that they were *bonâ fide* engaged in the practice of Dentistry in connection with Pharmacy, though their names are not to be found in the Pharmaceutical Register or in the Register of Chemists and Druggists.

On application being duly made to these persons as to the grounds on which they had described themselves as practising Dentistry in connection with Pharmacy, they have given explanations which show that they were Managers, Assistants, or Apprentices to Chemists and Druggists, and considered that in that character they were practising Pharmacy; and the Committee have no reason to doubt but that this was done from a misconception of the meaning of the Act, and without any fraudulent intention.

(3.) Letters were sent to fourteen others whose names did not appear in the Register of Pharmaceutical Chemists or in the Register of



Chemists and Druggists, but were returned through the Post Office marked "dead" or "gone away."

(4.) Then follow the particulars of twenty special cases stated at length.

(5.) That the names of sixty-eight individuals have been removed from the Register at their own formal request, and that about a dozen others have also declared their intention of withdrawing their names, but have not yet made application in due form.

(6.) That in two cases the particulars were errors in copying the original declaration; these have been corrected.

(7.) Twenty-two individuals state that they are already on the Chemists' or Pharmaceutical Registers, though with some inaccuracy as regards name or address, or that they have a right to be so entered.

(8.) Two have been ascertained to be legally qualified medical practitioners.

(9.) Sixteen were assistants to surgeons or students in medicine; they made the statement that they were engaged in the practice of Dentistry in connection with pharmacy without any fraudulent intent.

(10.) Seven were in *bona fide* practice of Dentistry, "with pharmacy" being added through a misapprehension.

(11.) In four other cases the words "with pharmacy" has been removed from the Register on formal application being made.

(12.) The names of ten were found to be on the Irish Pharmaceutical Register.

(13 and 14.) One individual was found to be of unsound mind, and another was a veterinary surgeon, who, in his reply to the letter addressed to him, says nothing about practising Dentistry.

(15.) Four more exceptional cases; facts stated at length.

(16.) A letter in the subjoined form, was sent to eighty persons, to their latest communicated addresses, but no answer has been received from any of them.

66, Lincoln's Inn Fields, London, W.C.;

August, 1880.

SIR,—It having been represented to the General Medical Council that the entry of your name on the Dentists' Register has been "incorrectly or fraudulently" made on a declaration signed by you that you were *bona fide* engaged in the practice of Dentistry with pharmacy before the 22nd day of July, 1878, the General Medical Council has referred your case to the Committee appointed under the 15th section of the Dentists Act, 1878, to ascertain the facts. By the same section, the report of such committee will be conclusive as to the facts for the purpose of the exercise of the power given to the General Medical Council of erasing a name or an entry from the Dentists' Register.

The Committee has met, and, on inquiry, finds that your name, at the time of your making your declaration for registry under the Dentists Act, was not on the Register of Pharmaceutical Chemists or Chemists



and Druggists, and it will be their duty to report that fact to the General Medical Council. As, however, the facts when found will be conclusive, the Committee think it only fair that, before coming to any decision, you should be invited to make any explanation in writing you may think necessary or desirable; or if you should wish to state anything beyond such explanation, the Committee will appoint a time at which you may attend and be heard.

You will clearly understand that the Committee deals only with the facts of the case. The judgment on these facts rests with the General Medical Council, before whom you will have the opportunity of being heard upon the questions of law applicable to your case.

Your answer should be addressed to us.

We are, Sir,

Your obedient Servants,

FARRER, OUVRY & Co.,

Solicitors to the General Medical Council.

The report concludes with particulars respecting several persons who practise as Dentists in conjunction with hair-cutting and shaving, &c., and with a statement of the case of John Hamilton, of Tavistock Street, W.C.

The following cases, with counsel's opinion thereon, were then read :

# I.—CASE AND JOINT OPINION OF THE SOLICITOR-GENERAL AND MR. F. VAUGHAN HAWKINS.

## THE GENERAL MEDICAL COUNCIL—*Dentists Act*.

Counsel will please see Copy of the Dentists Act (1878).

The carrying out of this Act, it will be seen, is entrusted to the General Medical Council, a body created by the Medical Act (1858).

By Section 11, a Register of Dentists is established.

Sections 12, 13, 14, 15, deal with erasures from and restorations to the Dentists' Register.

Section 12 gives certain powers to the General Registrar to alter names and addresses, to erase the names of deceased Practitioners, and to erase with consent the names of persons who have ceased to practise, or who, not answering letters from the Registrar, shall be deemed to have ceased to practise.

By Section 13 the General Council shall cause to be erased from the Dentists' Register any entry which has been fraudulently or incorrectly made, and of persons convicted or guilty of infamous or disgraceful conduct in a professional respect.

Section 14 provides for the restoration of names to the Dentists' Register after having been struck off.

Section 15—on which the questions whereon your opinion is desired mainly arise—provides that the General Council shall, for the purpose of exercising in any case the powers of erasing from, and of restoring to,

the Dentists' Register, the name of a person or an entry, ascertain the facts of the case by a Committee of their own body, not exceeding five in number, of whom the quorum shall not be less than three, and a Report of the Committee shall be conclusive as to the facts for the purpose of the exercise of the said powers by the General Council. Such Committee is always to be maintained, and the Committee has power to regulate its Meetings, &c.

The Dental Committee has been duly appointed.

More than 5000 names have been entered on the Dentists' Register, and, as might be expected, questions have arisen as to the Qualification of some of them. The several Qualifications are defined in Section 6 of the Act, and the questions arise on the following Clause (C) of that Section :—

“Is at the passing of this Act *bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy.”

It will be observed that the form of application for Registration given in the Schedule to the Act does not follow Section 6, that is to say, it does not purport to distinguish between persons practising Dentistry separately and persons practising Dentistry in conjunction with Medicine, Surgery, or Pharmacy. The General Medical Council therefore, availing themselves of the words “or to the like effect,” in Section 6, issued an altered form, a copy whereof is printed on page 23 of the published Dentists' Register for 1879.

This form has been universally adopted by applicants. Several hundred gentlemen have filled in the form, and have been registered as practising Dentistry with Pharmacy. Some have stated themselves to be practising Dentistry in conjunction with some trade, such as a Jeweller, Hair-dresser, &c., but these have not been registered.

The first question which arises is, has the Dental Committee power in itself to initiate inquiry as to the facts of any case that may be brought to its knowledge, or must the case be first referred to the Committee by the General Council.

The General Council, as a rule, meets only once in a year and, when it is not sitting, its duties, so far as they can be delegated, are performed by an Executive Committee. (See Medical Act, Section 9.)

The Council, however, has been advised that it cannot delegate to the Executive Committee any duty which is in its nature Judicial, and the question is whether the initiating any proceedings having for their object the removal of a name or qualification from the Dentists' Register is a Judicial act which the Council cannot delegate.

By the Pharmacy Act, any practice of Pharmacy by persons not registered under that Act is made illegal. (Section 1.)

Several hundred persons who have registered as practising Dentistry with Pharmacy were not at the time on the Pharmaceutical Register.

In ascertaining the facts it may be suggested, that it is the duty of the

Dental Committee to give to the person whose case is under consideration the opportunity of being heard. Although the Committee have no power to decide as to striking a name off the Dentists' Register yet, as their statement as to the facts is conclusive on the General Council, with whom the decision rests, it may be said to be unfair on the person whose interest is affected that the facts should be found in his absence, so that, before the General Council, he can only argue on such facts without being entitled to offer evidence to controvert them.

The questions upon which your Opinion is required are as follows :—

#### QUESTIONS.

1. Must any proceedings to erase a name or Qualification from the Dentists' Register, or to restore such thereto, be initiated by the General Medical Council?

2. Can the General Council delegate either to the Executive Committee under the Medical Act, or to the Dental Committee under the Dentists' Act, a general power of initiating proceedings?

3. Has the Dental Committee under the Act any power to originate proceedings?

4. Is the Dental Committee bound to hear the party interested before finding the facts?

5. Where a person has procured his name to be put on the Dentists' Register as practising Dentistry separately, but who, in fact, carries on some other trade, as a Jeweller, Hairdresser, &c., can the General Council remove his name from the Register?

#### OPINION.

1 & 2. We think that the power of initiating proceedings is vested in the General Medical Council, but that the Council may properly delegate to the Executive Committee, under the Medical Act, the power of receiving applications to the General Council, and of referring them to the Dental Committee under Section 15 of the Dentists' Act, to investigate and report on the facts of the case, for the purpose of the matter being afterwards brought before the General Council.

3. We think the Dental Committee cannot itself originate proceedings.

4. We think the Dental Committee ought, before finding the facts, to give the party interested the opportunity of offering any explanations, and of being heard, if he desires it.

5. We think that the name of a person cannot be removed from the Dentists' Register solely on the ground that he carries on some other trade, though the fact of his doing so might be material in considering whether he was *bonâ fide* engaged in the practise of Dentistry at the passing of the Act.

FARRER HERSCHELL.

F. VAUGHAN HAWKINS

## II.—CASE AND JOINT OPINION OF THE SOLICITOR-GENERAL AND MR. MUIR MACKENZIE.

### THE GENERAL MEDICAL COUNCIL.—*Dentists Act.*

The General Medical Council have carried out the Registration of Dentists in accordance with what they believed to be the meaning of the Act. Objections, however, have been raised which apply to the Registration of persons who were registered on their declaration of having been in practice prior to the passing of the Act. These objections are founded more especially on the interpretation to be placed on Clause (C) of Section 6 of the Dentists Act.

Counsel are requested to advise the General Medical Council in reference to this Section of the Act.

#### QUESTIONS.

1. What is the construction to be put upon the words "*bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy."

A. Do such words mean that a duly qualified Dentist must be actually in business on his own account, or could a person otherwise duly qualified, and discharging all the duties of a Dentist, but acting as Assistant to another, be said to be *bonâ fide* engaged in the practice of Dentistry?

#### OPINION.

1. We are of opinion that the words "*bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy," have no reference to any legal Qualifications to practice Medicine, Surgery, or Pharmacy. They are simply intended to indicate that if the person seeking registration is qualified to be registered by reason of his being *bonâ fide* in practice as a Dentist, he is to be none the less so entitled because that is not his exclusive occupation, but is only carried on by him in conjunction with the practice of Medicine, Surgery, or Pharmacy.

A. We are of opinion that a duly qualified Dentist need not necessarily be in business on his own account. If a person is discharging the duties of a Dentist, and really practising as such, he is not disqualified from Registration merely because he is acting as Assistant to another. But he would be so if his duties consisted merely in rendering assistance to his Employer, and not in the independent performance of Dental operations.



## QUESTIONS.

B. Could a person competent of himself and duly qualified to practise Medicine or Surgery with Dentistry, or to practise as a Chemist and Druggist and Dentist, but whose name is not on the Medical Register nor on the Register of Pharmaceutical Chemists, nor of Chemists and Druggists, be said to be *bonâ fide* engaged in the practice of Dentistry in conjunction with either Medicine, Surgery, or Pharmacy?

C. Assuming that a person qualified as in the preceding Clause can be registered in the form mentioned, will such person be disqualified from registration if acting as an Assistant only?

D. Can Apprentices to Chemists practising also Dentistry claim to be registered under the Dentists' Act as *bonâ fide* practising Dentistry in conjunction with Pharmacy?

E. Can a person duly qualified to practise Dentistry claim to be registered in conjunction with Pharmacy on the ground of his practising some form of Pharmacy such as Homœopathic or Veterinary Pharmacy?

## OPINION.

B. We are of opinion that the question whether the name of a Dentist seeking to be registered in conjunction with Medicine, Surgery, or Pharmacy, is or is not on the Medical Register or the Pharmaceutical Register is quite immaterial. The Practitioner in Dentistry is to be registered in respect of his Dental Qualifications only, and the Council need not inquire as to his right to practise Medicine, Surgery, or Pharmacy.

C. The above answer applies to this question. It is immaterial whether the person seeking registration in conjunction with Medicine, &c., is an Assistant or not, provided he possesses the requisite Dental Qualifications.

D. We think that Apprentices to Chemists practising Dentistry cannot claim to be registered as *bonâ fide* practising Dentistry in conjunction with Pharmacy. The 37th Section provides for the registration of Apprentices and Students in certain specified cases, but except in the cases provided for in that Section we do not think that Apprentices can claim registration.

E. We think it is immaterial what form of Pharmacy a person practices, provided he satisfies the Dental qualifications necessary for registration.



## QUESTIONS.

## OPINION.

2. Much misconception having arisen, on the part of persons applying to be registered under Clause (C) of Section 6 of the Dentists Act, as to the interpretation to be put on the words of that Clause, and application having been made to the General Medical Council to strike off the Dentists' Register the names of persons stated to have made false declarations in connection therewith, Council are requested to advise on the following questions :—

A. Whether a person can claim to be registered on filling up the Declaration as printed in the Schedule to the Dentists Act, and nothing more?

A. We are of opinion that a person can claim to be registered under Clause (C) of Section 6 on signing as prescribed in Section 7, the Declaration in the Schedule to the Act. The Registrar may, if he thinks fit, require the Declaration to be affirmed by a Statutory Declaration, as provided by Section 7, but nothing more can be required.

B. Whether the General Medical Council can, at the request of persons now registered, omit from the Dentists' Register the words "with pharmacy," or any additional Qualification that may have been entered on the Register, if the Council be satisfied that the request for insertion has been made through inadvertence or misconception?

B. The General Medical Council can, in our opinion, omit from the Dentists' Register the words "with pharmacy," or any like words, in every case in which they think proper to do so. Such words are in our opinion, superfluous, and should not have been placed on the Register at all. The Register should, in our opinion, contain the names of the Practitioners, with any Dental Diplomas or Qualifications to which they may be entitled, but should not contain any reference to their Qualifications or practice either in Medicine, Surgery, or Pharmacy.

## QUESTIONS.

C. Can the Council require proof to be furnished of any additional Qualification required to be registered, such as the production of any Diploma, Degree, or License of any Medical or Surgical Body, College, or Institution?

D. In the absence of such evidence has the General Medical Council power to remove the words "in conjunction with Medicine," &c., from the Dentist's Register?

## OPINION.

C. We think that the only additional Qualifications which should appear on the Register are those which express or imply fitness to practise Dentistry (Section 11, Clauses 2 and 6). If a Candidate for registration desires to have such additional Qualifications registered, we think that the Council can certainly require proof of such Qualifications by the production of the necessary Diploma, Degree, or License.

D. We have already said that we think that the Council have full power to remove from the Register the words "in conjunction with Medicine." We think further that in any case in which the Register contains incorrect statements of a Dentist's Qualifications, the incorrect statement may, under Section 13, be erased.

FARRER HERSCHELL.

TEMPLE, *December 14th*, 1880.

MONTAGUE MUIR MACKENZIE.

10. Moved by Mr. Turner, seconded by Sir James Paget, and agreed to:

"That the Questions submitted to Counsel, and the Opinions thereon, be read."

11. Moved by Mr. Turner, seconded by Sir James Paget, and agreed to:—

"That Mr. Ouvry's Remarks on the Dental Committee's Reports and the Opinions of Counsel, be received, read, and entered in the Minutes."

Mr. SIMON asked whether these opinions should be made public?

Mr. OUVRY (Solicitor to the Council) said he saw no objection to their publication: they were very clear and decided, and were given upon matters affecting public interest.

On the motion of Dr. AQUILLA SMITH it was resolved that the cases and opinion be received and entered on the minutes, together with the following explanatory remarks drawn up by Mr. Ouvry:—

"These Reports deal solely with facts, and the finding of the Committee as to such facts is, by the Dentists Act conclusive on the General Council.

The General Council has therefore to consider whether the facts so found call upon the Council in any of the cases under consideration, either

- (1) To remove the names from the Dentists' Register, or ;
- (2) To amend the entries in the Register with respect to such names.

The great majority of the cases included in these reports are those in which persons are registered on declarations made by them that they were practising Dentistry with Pharmacy, or with Medicine or Surgery, and in each and every case the facts are found by the Dental Committee. A distinction is made between those cases wherein the persons are either on the Pharmaceutical Register or on the Register of Chemists and Druggists, and the cases of those whose names do not appear in such Registers, but who still practice Pharmacy in some form or other.

The Dental Committee find no fraud in any of these cases.

The Council will therefore have to consider whether, in the absence of fraud, the names of such persons should be struck off the Register, even if the Council should

- (1) Consider that such persons had inaccurately described themselves as practising Pharmacy, Medicine, or Surgery, or ;
- (2) Assuming it to find that such inaccuracy existed, should amend the Register by striking out therefrom the words 'with Pharmacy,' 'with Medicine,' or 'with Surgery,' as the case may be.

In determining these questions, the opinion of Counsel has an important bearing.

It will be seen that Counsel express the opinion that the additional words above referred to are superfluous, and should not have been placed on the Register at all ; and, further, that the Council has power to amend the Register by striking out such superfluous words. In fact, the opinion is that the Dentists' Register should contain the names of the practitioners, with any Dental Diplomas or Qualifications to which they may be entitled, but should not contain any reference to other Qualifications or practice in either Medicine, Surgery, or Pharmacy ; and that whether the name of a Dentist seeking to be registered in conjunction with Medicine, Surgery, or Pharmacy, is or is not on the Medical, Pharmaceutical, or Chemists and Druggists' Register, is quite immaterial. The practitioner in Dentistry is to be registered in respect of his Dental Qualifications only, and the Council need not inquire as to his right to practise Medicine, Surgery, or Pharmacy.

It is further advised by Counsel that a duly qualified Dentist need not necessarily be in business on his own account, and that, if a person

is discharging the duties of a Dentist, and really practising as such, he is not disqualified from registration merely because he is acting as assistant to another; but he would be so if his duties consisted merely in rendering assistance to his employer, and not in the independent performance of dental operations. This opinion of Counsel on these several points may probably lead the Council to consider whether going beyond the names included in the Reports of the Dental Committee, the whole Register does not require to be amended, by striking out all reference to Pharmacy, Medicine, or Surgery, allowing only the Dental Qualification to remain.

There are two cases\* which involve the question whether persons are entitled to be registered where they practice a trade in conjunction with Dentistry. The opinion of Counsel was taken on this point some little time since, and that opinion was that the exercise of a trade in conjunction with Dentistry was not a disqualification, though it might have an influence in deciding whether the practice of Dentistry was *bona fide*.

There are also some other cases, brought before the Council in the Reports of the Dental Committee,† which involve distinct considerations. Upon these cases it does not seem that any remarks can be made that would facilitate the work of the General Council in considering them."

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Dr. HUMPHREY said, for the purpose of taking practical action upon what had been presented to them, he had given notice of motion to the following effect:—"That all qualifications now appearing in the Dentists' Register, other than Dental qualifications, be erased therefrom." Any one could be registered who, at the passing of the act, was *bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy, and as the Council thought in accordance with the clause of the Act, it issued a schedule differing somewhat from the schedule under the Act, and containing the following rider:—"Is at the passing of this Act *bona fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy." That schedule went forth to the world. They had now taken counsel's opinion, and it was to the effect, that the Register, as suited in the list, was a Dentists' Register, and meant that and nothing more, and that they had no right to expect anything more, or to insert anything more in the Register. That appeared clearly in counsel's opinion, and also in the statement made by Mr. Ouvry.

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\* See paragraphs 17 and 18 of the Dental Committee's Report.

† See Clauses 4, 5 and 8 of the Minutes for Oct. 29. 1880 (Vol XVII., pp. 251-252, 255).



Whatever might have been the intention on the part of the promoters of the Act, as to that which to ordinary minds was an obscure direction of the Act, yet, nevertheless, they had now a distinct opinion of counsel that this was really an unnecessary thing, and that they had no right to make any mention in the Register of any qualifications except those relating to Dentistry. It seemed perfectly clear from their opinions that there never should be any entry in the Register, except those relating to Dentistry. Then came the further question whether they should expunge those entries from the Register. It was clear that they had power to do so, and to amend the Register by striking out those additions, and it seemed very important that they should do so, for it would put an end to all question which had arisen in such a large number of cases as to whether persons were properly entered on the Register, or whether they had by misconception or by fraud added the words "in pharmacy," "in medicine and surgery"; and it would clear away at once the necessity for entering upon the consideration of the large number of cases mentioned in the Report. It was very important that the Dentists' Register should contain that which it professed to contain and nothing more, that is to say, that it should contain Dental qualifications and no other; and, for this reason, that they had no right to inquire whether those other qualifications were legal or not; they had no right to inquire whether a person who returned himself in connection with pharmacy was on the Pharmaceutical Register, or whether a person returning himself as practising Dentistry in connection with surgery was on any Register as a surgeon; and, therefore, they were really, by placing these additions on the Dental Register, implying a false value to a title which might have no legal existence. He therefore begged to move the resolution of which he had given notice.

Dr. FERGUS seconded the resolution.

Mr. MACNAMARA said, while thoroughly agreeing with all that had fallen from the lips of the proposer of the resolution, he wished it to be understood that he did not subscribe to the doctrine that was involved in the statement they had heard that the Council would go quite far enough by carrying this resolution, because unquestionably there were some men who had got on the Register by stating that which was absolutely false. There were several cases where persons appeared on the Register as practising Dentistry in connection with medicine when they knew very well that they were not, and now they wished to have their names taken off, stating that it had been done "through inadvertence." How could they be so stupid as to state that they were engaged in the practice of Dentistry "with medicine" when they knew they were not doing so? and now, when they absolutely cried *peccavi*, were they to escape any punishment whatever for making that which was a false assertion, and for figuring in plumes which did not belong to them? He thought the Council should not be satisfied with simply



removing the qualifications. No doubt there were certain gentlemen who had qualifications in medicine and surgery, and perhaps the best thing would be to strike out all those qualifications. There was a hardship, therefore, in connection with those men who had acted *bona fide*; and were those who had not acted *bona fide* to be awarded only the same punishment which was measured out to those who had acted in a thoroughly *bona fide* manner? He agreed that what Dr. Humphrey proposed was the wisest thing to do, but at the same time it was not doing enough, and, while voting for the resolution, he could not look back upon it as a finality.

Dr. QUAIN pointed out that the Dental Committee had found that there had been no fraud in any one case referred to by them.

Dr. AQUILLA SMITH said, Mr. Macnamara entirely misread the words of the motion. He had assumed that some of these men had acted fraudulently in getting their qualifications. The Council had nothing to do with that; the motion was simply to strike out the qualifications, and if any fraud had been committed, the names would remain on the Register, and they would be just as open to penalty and erasure hereafter. It would be a great waste of time to enquire how these qualifications were put on; the simple fact was that they were on the Dentists' Register, and counsel had distinctly advised them that they should be removed.

The PRESIDENT said, as a matter of fact, Mr. Macnamara was not speaking to the motion, which was that the Dentists' Register be amended by removing from it all other than Dental qualifications. That had no relation to the question of individual cases which came before them in another category. They were not discussing whether persons were guilty of fraud, because that was entirely beyond the province of the Council. The law was that a Committee was to judge as to the facts of the cases, and to submit the facts to the Council. It was for the Council to decide what should take place upon those facts, but they could not discuss whether persons who had been adjudged by the Committee not to be guilty of fraud had actually been guilty of fraud.

Mr. SIMON asked whether the Council had any opportunity of judging whether the facts submitted to them constituted fraud.

Mr. OUVRY said the Committee had investigated the facts; they had communicated with each of the gentlemen referred to, and had received their answers, and they found, as a fact, that their declarations were not made fraudulently. He took it that the fact was binding on the Council just as any other fact found by the Committee would be. If it were not so the Council would have to investigate the thousand letters that he had received from those gentlemen, and to found their opinion upon those letters as to whether they had made their application from a mistake or from any action of fraud.

Sir WILLIAM GULL supported Dr. Humphrey's motion. He said it was quite beside the question to add any qualifications in the Dentists

Register as to a man's practising medicine or surgery or pharmacy. They might just as well insert that he was a farmer or a hair-dresser, and so make the Register look ridiculous. They must, therefore, leave out all qualifications, except such as related to Dentistry.

Prof. TURNER said that no doubt Dr. Humphrey's motion would enormously simplify the Register, and their excellent Registrar would be delighted to have this burden removed from his shoulders. He, however, could not help, without in the least throwing any doubt on the Council, inquiring why the words, "or in conjunction with the practice of surgery, medicine, or pharmacy" were put into the Act. There was an expression in a letter from Mr. Tomes which they ought not to pass over. Mr. Tomes was the moving spirit in the framing of this Bill, and it was under his auspices that the Bill was introduced. There was no doubt at all, from an expression in the letter, as to what was in Mr. Tomes' mind when the words "either separately or in conjunction with medicine, surgery, or pharmacy" were introduced into the Bill. Mr. Tomes said, "The end might be gained by the use of an initial letter or by an asterisk; but it would be far better to use for the purpose the words of the Act, namely, 'in practice before July 29th, 1878, in conjunction with pharmacy or medicine or surgery, as the case might be,' and this would, at the same time, carry out most perfectly both the letter and spirit of the Dentists Act." From these words it was obviously in the mind of Mr. Tomes that there should be some indication in the Dentists' Register bearing on those matters. Why, then, were they put in the Act unless they were to be brought prominently forward in the Dentists' Register? What information had the Medical Council on this question, as to whether a person applying to be registered under Clause C was simply a Dentist, or was a Dentist and something more. They could have no information unless they asked for it, and it certainly seemed as if, by the clause in the Act, they were required to ask for it. If not, he could not understand why the alternative proposition was put into the clause. There was another matter as to which he had been somewhat disappointed in connection with the opinions of Counsel, and that was as to the possibility of admitting to the Dentists' Register, under the head of titles other than Dental titles. There were, for instance, some Dentists who were graduates in medicine at universities, licentiates and members of colleges of surgeons, and it was thought it would be a suitable thing if those gentlemen holding medical qualifications in addition to the Dentists' qualification, should express their qualifications along with the Dental qualification on the Dentists' Register. It was quite clear that Mr. Tomes did intend that there should be some expression in the Dentists' Register showing on what conditions a man was admitted to the Register.

Dr. SCOTT ORR said it was not the business of the Council to decide what people meant in framing an Act of Parliament, they must look to the Act itself. There was no doubt that the Council had resolved to

register higher titles than Dentistry, and he was one who opposed the resolution. They now had the clear opinions of Counsel that they could register no qualification except Dental Qualifications, and it could not be doubted that the Council must be guided by, and act up to the legal opinion that had been taken.

The discussion was adjourned for a short time in order that the Council might proceed to consider the case of Mr. John Hamilton, No. 404, Oxford Street, who had been summoned to appear before the Council at 4 o'clock. It having been ascertained that Mr. Hamilton was not in attendance,

Mr. OUVRY read the notice which had been forwarded to Mr. Hamilton, and also the facts relating to his case which appears in the Report of the Dental Committee.

The Council then proceeded to deliberate on Mr. Hamilton's case in private, and on strangers being re-admitted :

The PRESIDENT read the following Resolution which had been agreed to by the Council, that "As it has been proved to the satisfaction of the General Medical Council that John Hamilton has been guilty of disgraceful conduct in a professional respect, the Council does by this order in writing direct his name to be erased from the Dentists' Register in conformity with Clause 13 of the Dentists Act.

Dr. STORRAR (in resuming the discussion upon Dr. Humphrey's motion) said Professor Turner had made an allusion to the wishes and intentions of Mr. Tomes, and the association with which his name was identified. Mr. Tomes was a personal friend of his own, he knew his feelings on this subject, and he felt that knowing them he ought to state those views, and the views of those with whom Mr. Tomes was associated, so far as he could. Their great desire was to raise the position of their profession, and to purge out a number of loose persons whom they knew took refuge in it. At the same time it was their great desire not to be so limited as to exclude persons engaged as pharmacutists, and who were to a certain extent practising as Dentists. But when the period came for registration there was a perfect rush of persons—he believed he should not be wrong in saying that more than double the number of persons presented themselves for registration that had been expected by Mr. Tomes and his co-adjutors. Mr. Tomes and his friends not unreasonably thought that if persons declared themselves to be practising as Dentists along with pharmacy, and their names did not appear on the Register of the Pharmaceutical Society, that would be a fair *prima facie* ground for the removal. But the schedule which described the form of application did not carry out that intention, and the result was no doubt inevitable; and it was only due to Mr. Tomes and to the very highly respectable body with which he was associated, to say that they would be bitterly disappointed, and the period would probably be delayed for years within which they hoped to see a more dignified profession of Dentistry than had hitherto existed. Still, although it would be a dis-

appointment to them, he did not mean to say that it was for these highly respectable gentleman to stand in the way of what was clearly the law. It occurred to him whether it might be possible for the Registrar to make more ample use of the statutory declaration which it would be in his power to impose. There were many men who would come forward and sign an ordinary declaration such as the one contained in the schedule, who would probably think twice before committing themselves to a statutory declaration. But the question now was whether the bulk of these men have got upon the Register by their ordinary declaration. That was a point for Mr. Ouvry to consider. He (Dr. Storrar) had not a word to say against the motion before the chair, but knowing Mr. Tomes and the motives which influenced him, it was only fair that it should be clearly before the Council that those motives were deserving of all honour and praise.

Dr. QUAIN said he quite agreed with the praise that Mr. Storrar had accorded to Mr. Tomes and his good intentions. The Council, however, had nothing to do with intentions, they had only to deal with the Act of Parliament before them, and nothing could be clearer than opinions expressed by those whom they had consulted. Mr. Tomes and his friends had tried impossibilities; they had tried to induce Parliament to say that a man should be engaged separately as a Dentist and nothing else. Parliament would never consent to such a law as that. He thought this was only one of the many illustrations of bad results from amateur legislation.

Dr. HUMPHREY, in reply, said he was glad that the Council had endeavoured to carry out the spirit of the Act in accordance with the intentions of those who framed it, and that they had acted when they made their first Dentists' Register in accordance with those intentions. The Council had done their best to carry out the spirit of the Act. He quite agreed that the intentions of the Act were in accordance with the view they had taken of it, and that it was to register only those who practised separately or in conjunction with medicine, surgery, or pharmacy. Such was the view they took in the Executive Committee, and it was deplorable that the words of the Act did not more closely correspond with the intentions. They knew full well that intentions and words especially in Acts of Parliament, very often did not correspond, and that had clearly been the case in the present Act. They, however, must be guided not by intentions, but by the words and by the interpretations of those words which were brought before them by their legal adviser, and must admit to the Register all this shoal of persons whom no doubt it was the intention to exclude. There was, however, this consolation to be taken, that as time went on, these evil things would



gradually become less and less, and that ultimately after the lapse of a certain number of years, those only would be admitted to the Register who had a qualification obtained from some of the medical authorities, and in that way the end they desired would be attained, and the Dental profession would be raised by virtue of this Act. It had been pointed out that the words of the resolution required some alteration. The words were, "all qualifications be erased." Strictly speaking, the words did not quite correspond with the intentions. There were no "qualifications," and he would therefore propose to alter the resolution in this way:—"that all statements with reference to the practice of medicine, surgery, and pharmacy, now appearing in the Dental Register be erased therefrom," It did not alter the intention of the resolution, but simply put the words in a somewhat different form. Dr. Fergus agreed to the alteration, and if the Council would permit it, it would more fully express their intentions.

The resolution as amended was then put to the Council and agreed to.

Dr. PITMAN moved:—"That the Council is not in possession of evidence to show that any of the registered Dentists named in the "corrected list of persons" submitted by the Honorary Secretary of the British Dental Association (set forth in pp. 244 to 248 of vol. xvii. of the Council's Minutes), or of the registered Dentists named in the letter of Dr. Jacob (Minutes, vol. xvii., p. 256), were not at the time of their registration, *bonâ fide* engaged in the practice of Dentistry, and is therefore not prepared to order the removal of any such persons from the Dentists' Register." He said the Council could scarcely pass any opinion on the facts set forth by the Dental Committee, but they must accept, and he hoped would accept, the motion which he proposed.

Dr. AQUILLA SMITH seconded the resolution.

Mr. SIMON said the form of the resolution did not refer to the preceding report of the Dental Committee, upon which it was founded.

Dr. PITMAN said if they read the report they would find it went fully into every question, and gave reasons for believing that the applications were not fraudulently made.

Dr. QUAIN said that there was no evidence that any one of these men had obtained registration, except on a declaration that he was *bona fide* engaged in the practice of Dentistry, and the Registrar registered no one who did not produce evidence to him which he deemed sufficient to show that he was *bona fide* engaged in the practice of Dentistry. Therefore, until it was proved that he was not *bona fide* engaged in the practice of Dentistry, every one of these persons must remain on the Register.

The PRESIDENT stated that the notice of motion had been drawn up with much care by the solicitor, and it was a statement, as far as it went, of that which the Committee had in evidence, but it went no further. The Committee had been very careful to state nothing beyond the facts which they knew. The particular cases were classified in the report, but to make a summary of them required very great care.



Mr. MACNAMARA said he certainly could not vote for any resolution which would sanction the retention of some of the names returned on the Dental Register. How could the Council appear before the public or before their professional brethren if they allowed the name of such a person as Mr. Ackermann to remain on the Register? He carried on the business of a hair-dresser, admitted that he was ignorant of the anatomy of the mouth, and did nothing but extract teeth. He wished to know if all the names printed in the report were covered by resolution. What names then were? He heard Mr. Simon ask the question, and the answer was not at all satisfactory. He wished to have a clear and distinct statement as to what names were covered by the resolution.

Dr. PITMAN said the resolution referred to two lists set forth in pages 245 to 248 of volume 17 of the Council's Minutes.

After some further suggestions the resolution was passed in the following form :—"That the report of the Dental Committee not having put the Council in possession of evidence to show that any of the registered Dentists named in the corrected list of persons submitted by the Honorary Secretary of the British Dental Association (set forth in pages 245 to 248 of vol xvii of the Council's Minutes), or of the registered Dentists named in the letter of Dr. Jacob (Minutes, vol. xvii, page 256), were not, at the time of their registration, *bona fide* engaged in the practice of Dentistry, the Council is therefore not prepared to order the removal of any such persons from the Dentists Register."

Dr. HUMPHREY moved, "That the persons mentioned in clause (5) of the Dental Committee's report as having been actually removed from the Register at their own request be, on their application, restored to the Register without fee, subject to the discretion of the Executive Committee as to the grounds on which their names were so removed." On reference to the report it would be seen that the persons referred to were, first, those who had withdrawn their names in consequence of receiving threatening letters from the Secretary of the British Dental Association. Those threatening letters related to the fact of their having registered as pharmacutists without being on the Pharmaceutical Register; secondly, there were persons who had discontinued the practice of Dentistry and pharmacy; thirdly, those who had withdrawn their names through misapprehension; and fourthly, chemists' and druggists' assistants or managers, while in one case the person was a member of the National Association of Herbalists. The greater number of these had withdrawn their names in consequence of a misapprehension into which they were led by the Council's schedule, and it seemed only fair and under those circumstances they should be allowed, on application, to have their names restored without fee. The Council had decided that five shillings should be paid for restoration to the Medical Register of a name which had been erased therefrom, but under the circumstances of the

present case he proposed that the names should be restored without payment of any fee "subject to the discretion of the Executive Committee as to the grounds on which their names were so removed." With regard to chemists' and druggists' assistants or managers the legal opinion was, "We are of opinion that duly qualified Dentists need not necessarily be in business on their own account." It appeared, therefore, that all these persons had withdrawn their names under a misapprehension which was in part shared by the Council, and it was only right they should be allowed, if they so desired, to have their names restored to the Register subject to the discretion of the Executive Committee.

Dr. QUAIN seconded the motion.

Dr. AQUILLA SMITH said he regretted that he could not vote for it. He entirely admitted that those gentlemen withdrew their names under a misapprehension, but the Act said that the name of any person erased from the Dentists' Register at his own request or with his consent, might be restored to the Register on his application and payment of a fee not exceeding the fee fixed by the Council, while the fee fixed by the Council was five shillings. The Act said nothing about the circumstances of the withdrawal, and unless the standing order relating to the fee was rescinded, he did not think the motion could be agreed to.

Dr. FERGUS said the Council had the power to fix the fee, and therefore he could not see why they could not dispense with it in the present case.

Mr. SIMON said he was not the only Member of the Council who felt that their position was rather a humiliating one; but if they had led other people into error of course it was desirable that they should do what they could to remedy it. If it was thought fit to pass the proposed resolution he considered that some words should be added such as the following:—"And the grounds on which registration is claimed." It should be left open to the Executive Committee to review the cases. Of course, if the Council was responsible for these names been taken off the Register when they ought not to have been, there should be no charge for putting them on again.

The standing order referring to the fees was then suspended for the time being on the motion of Dr. Aquilla Smith, and the resolution was agreed to with the addition of the words suggested by Mr. Simon.

Dr. AQUILLA SMITH proposed "That no evidence has been adduced to justify the removal from the Register of the name of Christian Friedrich Wilhelm Ackermann, whose case is set forth in Clause 17 of the Dental Committee's Report."

Sir JAMES PAGET seconded the motion.

Mr. MACNAMARA said this was one of the cases to which he must object. The Council was a deliberative body, and surely they were not going to send out to the world that Dentistry consisted of nothing but the extraction of a few teeth, and that a man might be a Dentist whose principal occupation seemed to be dressing hair, and whose wife kept a

tobacco shop. If such a case as that was to be retained on the Dentists' Register, it would be far better for the profession of Dentistry that such a Register never had come into existence, and it would be a standing disgrace to the Council. The facts had to be taken from the Report of the Dental Committee, and that Committee had reported that this man knew nothing whatever about the anatomy of the mouth—was such a person to be admitted on the same Register as the honoured name of Tomes? On behalf of the Dental professors, and on behalf of Surgery, he most earnestly protested against the retention of such a person's name on the Register.

Dr. QUAIN said he thought Mr. Macnamara saw these two persons, and must have noticed their intelligence and truthfulness. One of them had been engaged for three years in connection with the German hospitals and the German army, and his father practised as a Dentist before him. In Germany it was usual, as it formerly was in England, to combine the practice of surgery with that of a barber. There was nothing dreadful about that. The person referred to in the resolution was asked, "Do you pull out many teeth?" and he said he pulled out 612 last year. The impression left on the mind of the Committee was that they would much rather have him to extract their teeth than many of those whose names had been left on the Register. What was Dentistry? The reputation of the celebrated Cartwright himself was entirely founded on the pulling out of teeth. But Dentistry had now extended to stopping and scraping teeth. The men whom Mr. Macnamara objected to were apparently men of great intelligence, and he could not, and would not, vote to have their names taken off.

Mr. SIMON said he hoped Dr. Aquilla Smith would see his way to alter the form of the resolution, and let it be to the effect that the Council was advised that there did not exist a legal case for removing these gentlemen from the Register. It would be quite consistent to say that no evidence had been adduced justifying the removal of the names. The Act said that it was expedient that provision should be made for the registration of persons specially qualified to practise as Dentists, and he could hardly find it in his conscience to say that there was any reason to remove the name of a man because he did nothing but extract teeth. He bowed unreservedly to the legal opinion, but he hoped the resolution would be so framed as to show that the Council was simply acting mechanically in obedience to the law. He would suggest that the resolution should read, "That no legal case exists for the removal," &c.

The PRESIDENT said he thought the word "evidence" bore that signification.

Mr. SIMON said that in his opinion evidence in a medical sense had been adduced to justify the removal, but in a legal sense it had not.

Dr. AQUILLA SMITH said he had been very much struck with the frank, straightforward way in which the persons answered the questions put to them, and the conviction of the Council was that they were more com-

petent than many whose names were still on the Register as practising pharmacy. They were trained and disciplined in drawing teeth, and they stuffed teeth, but they added in the most artless way that they never used anything but gutta-percha. It was no use for the Council to begin discussing what was the meaning of "practising dentistry;" for if they were to talk about it for a month they could not settle the matter among themselves. He did not object at all to Mr. Simon's suggestion.

Sir WM. GULL said he thought the Council was in a very unfortunate position, but they must submit to it. He should be sorry if it went forth to the world that they as medical men had decided that Dentistry was nothing but pulling out teeth. Dentistry consisted in saving teeth.

The PRESIDENT said that it had been suggested by Mr. Ouvry that the resolution might read "That on the evidence the Council do not see sufficient legal grounds on which to direct the removal from the Register," &c. That would leave the case open to full discussion hereafter on medical grounds.

Dr. AQUILLA SMITH accepted the suggestion, and the resolution so altered was seconded by Sir James Paget and agreed to, as was also the following resolution, "That on the evidence the Council do not see sufficient legal grounds on which to direct the removal from the Register of the name of August Leopold, whose case is set forth in clause (18) of the Dental Committee's Report."

Dr. AQUILLA SMITH then moved, "That in regard to Alexander Schoake, mentioned in clause (19) of the Dental Committee's Report, there is no evidence before the Council on which it can act."

Dr. PITMAN seconded the motion.

## Abstract of the Proceedings of a Meeting of the Representative Board, held February 7th, 1881.

*Letter to the Executive Committee of the General Medical Council,  
December 2nd, 1880.*

GENTLEMEN,—The usual time for the yearly publication of the Medical Council's Registers being at hand, we venture to express an earnest hope that the issue of the Dentists' Register for 1881 will not be allowed to take place until a complete determination has been arrived at in regard to the persons whose right to remain in the Register was, under high legal authority, brought before the General Council in July last, and by the Council referred to the Dental Committee.

The opinion was, that the registration of many of these persons would have been avoided had sufficient consideration been given to the words "and the other particulars, if any, required for (correct) registration" (Dentists' Acts, Sect. 7), introduced, it was said, for



the purpose of giving unlimited powers of inquiry as to the rights of Claimants for registration.

The present exceptional conditions will, it is trusted, be deemed a sufficient justification for the very strong appeal against the republication of numerous entries, the correcting of which is under legal consideration.

The existing Dentists' Register, although dated with verbal accuracy, might from its very late issue in 1879 have, without substantial error, borne the date of 1880, for the service of which year it was made almost exclusively available.

We have the honour to be,

Your obedient servants,

EDWIN SAUNDERS,	JAMES SMITH TURNER,
THOMAS UNDERWOOD,	JOHN TOMES,
JAMES PARKINSON,	THOMAS A. ROGERS,

Members of the Business Committee of the British Dental Association.

#### MEMORIAL TO THE PRESIDENT AND COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

[A copy of this Memorial was sent to the Royal College of Surgeons of Edinburgh; to the Royal College of Surgeons in Ireland; and to the Faculty of Physicians and Surgeons of Glasgow, with the addition of the paragraph printed in italics at page 80].

GENTLEMEN,—The Dental Reform Committee, after its duties in obtaining the Dentists Act had been fulfilled, convened a public meeting of Dental Practitioners by means of advertisements in the daily papers. The meeting by an unanimous vote, determined upon the formation of a representative association, to be called the British Dental Association, and a fully organised executive committee, consisting of leading members of the dental profession, from the great towns of the United Kingdom, was appointed. In June last the Association was incorporated, and herewith is enclosed a copy of the Memorandum and Articles of Association, wherein it will be seen that the Association has for its principal objects the encouragement of professional knowledge, and the maintenance of the spirit and provisions of the Dentists Act.

In furtherance of these objects the Association, through its Representative Board, ask for your consideration of the following suggestions:—

(a) The Representative Board of the British Dental Association begs respectfully to call the attention of the Council of the Royal College of Surgeons, to the Memorial addressed by the President and Council of the Odontological Society to the College (April 4, 1857), in which it was asked that an education and examination should be instituted for the qualification of Dental Practitioners, *equal in degree* but differing



somewhat in kind from that required for the membership of the College.\*

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*[This, with other Memorials to the like effect from leading Dental Practitioners, constituted the first step in a series of connected actions which led to the Dental Charter of the Royal College of Surgeons of England, and subsequently to the passing of the Dentists Act].*

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Now that dental education is made compulsory, and placed under the control of the medical authorities, the Board confidently hope that this equality in degree will be firmly established.

(b) With the view of maintaining the high value attached to the Licentiate in Dental Surgery, in the estimation of Dental Practitioners, it is hoped that, inasmuch as the surgical section of the Dental Board of Examiners has ever been represented by surgeons of the highest distinction, the dental section will, in like manner, be represented by Dentists of acknowledged distinction, either for their researches in dental subjects, or for their admitted skill as practitioners and matured experience as teachers in dental schools.

(c) The Board ventures also to ask that the practical part of the dental examination for the Licentiate in Dental Surgery, already established by your College, and recommended for general adoption by the General Medical Council,† shall be made thoroughly effective as a test of fitness for practice.

January 17, 1881.

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#### REPORT OF THE BUSINESS COMMITTEE UPON THE CORRECTION OF THE DENTISTS' REGISTER.

Bye-Law 21 requires that—

21. The Representative Board shall receive and investigate by the help of professional assistance, or otherwise, charges of offences alleged to have been committed against the Dentists Act, and if such charges are found to be supported by sufficient grounds, each case with the supporting evidence shall, if not otherwise disposed of, be brought before the General Medical Council.

It will be in the recollection of the Board that a large number of cases of alleged offence against the Act were brought before the Board, especially of cases of persons who had registered as in the practice of Dentistry with Pharmacy, but not having been registered as Pharma-

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\* Extract from Memorial:—"The memorialists do not suggest an education and examination *inferior* to that required of the medical practitioner; but propose a certain difference in *kind* only—not a difference in degree; an education and examination especially adapted to the requirements of the Dental Surgeon as distinguished from that fitted for the general surgeon.

† Minutes of General Medical Council, March 26, 1879.

cists, could not legally practice Pharmacy. Others, again, who were practising Dentistry in conjunction with business not recognised in the Dentists' Act. The alleged cases of incorrect registration were referred to our Solicitor, who obtained counsel's opinion thereon, the opinion being to the effect that the names of persons who so registered could be removed from the *Dentists' Register*. Letters approved by our Solicitors were written to the persons thus situated, pointing out to them that in the opinion of Council their names might be erased from the *Dentists' Register*, and suggesting that they should themselves withdraw, and furthermore that if they did not think fit to take that course it would be the duty of the Board to bring their case under the consideration of the Medical Council. A limited number withdrew their names from the Register. The Board will remember that the names of those who declined to take this course, to the number of about 400, were sent in to the Medical Council with a copy of counsel's (Mr. Fitzgerald's) opinion, upon which the Board had acted, in writing to the persons, and in bringing their names before the Council.

At the Meeting of the General Council in July last, the alleged cases of incorrect registration were referred to the Dental Committee for an investigation of the facts. It appeared that the Council had taken Mr. Charles Bowen's opinion upon the operation of certain sections of the Dentists Act. This opinion, with Mr. Fitzgerald's, was, to our disappointment, read and discussed by the Council with closed doors, and our request that it should be printed was not acceded to, hence we have no knowledge of its details, but it was rumoured that the two opinions did not differ materially. However that may be, the Council directed that counsel's opinion should be taken as to the operation of the Act upon the cases submitted to the Dental Committee. The opinion sought was that of the Solicitor-General and Mr. Vaughan Hawkins, in the one case, and the Solicitor-General and Mr. Montague Muir Mackenzie in the other, and with this general result. The phrase "separately or in conjunction with medicine and surgery" is inoperative, as is also "or to the like effect" after the words "to the schedule to this Act." In other words the only condition necessary to registration according to the Solicitor-General was, that a person shall have been in the *bonâ fide* practice of Dentistry at the passing of the Act, and the only condition which will justify the erasure of a name is the production of proof that the registered person was not in *bonâ fide* practice at that time. But it is stated that an apprentice could not claim registration, hence if any such persons obtained registration by signing the schedule, their names may be removed from the Register. The phrases which have been quoted, it would appear might have been omitted from the Act without producing any effect on the operation of its provisions. According to these opinions the Act empowers the registration of all persons who were in practice at its passing quite irrespective of their pursuance of any other

business concurrently, and it does not allow of enquiry on suspicion of fraud antecedent to registration further than the insistence of a Statutory Declaration.

With this clearly expressed joint opinion of the Solicitor-General and Mr. Hawkins in the one case, and Mr. Mackenzie in the other, the Medical Council could do no other than follow mechanically the path to which those opinions pointed. We may be told that they are acting on an opinion, and that an opinion is not the law, but an attempt to interpret the law; and that with acknowledged difference in opinions, the question at issue can be settled only in the law courts. It may be so, but we shall do well to consider the questions as to the erasure of names, on what we may call side issues, as settled. Of this we may feel assured, that the Medical Council, have discharged the duties in the administration of the Dentists Act faithfully, and to the best of their ability, and we owe them our thanks for the thorough manner in which the cases submitted have been investigated.

The course which the Council have felt bound to follow in the retention of the names of many persons whom we were fully justified in supposing might and should be removed, will be a great disappointment to Members of the Association, but if we compare our gains with our losses we shall have great cause to be satisfied with the general result of our efforts to place the Dental on a level with other professions.

When the Dentists Bill came on for second reading, Lord Sandon said, "on behalf of the government, I may say that we are happy to assent to the second reading of this Bill, on the ground that the general object is a good one; but we must reserve to ourselves great freedom to introduce such alterations in Committee as we think fit. There are many things we desire to alter, but we agree to the general principle, and we are ready to assent to the second reading." Now one of the things the government desired to alter was the following clause 7:—"No name shall be entered in a Register under this Act, except of persons authorised by this Act to be registered, nor unless a registrar be satisfied by sufficient evidence that the person claiming is entitled to be registered, &c." In this clause we had sufficient protection against false entries, but its retention would have been at the cost of losing the Bill. The amendments we were required to accept consisted in the substitution for the then existing registration clause, just read, of the registration section of the Government Medical Bill as approved by the Medical Council. We were advised that as amended there were sufficient means provided for ensuring the ultimate purity of the Register, but that false registration, if it occurred, would be corrected by erasure. It was pointed out by those in authority, that existing interests must be fully protected, and in order thereto, no difficulties must be thrown in the way of the registration of those who were in *bonâ fide* practice. Now the government clauses have received an interpretation contrary to that which

we were justified in believing they would receive, and if the interpretation be correct, we have lost a power of cleansing the Register we considered we possessed, and a power we should have possessed, but for the Government amendments. What is that loss when stated in the simplest terms? We have lost the power of correcting the Register by the erasure of the whole entry, on the ground of the false statement of a secondary issue by the correcting of the claim to practice some other thing than dentistry, or to pursue some other calling with dentistry than those named in the Act. Had the government made this position clear by requiring the withdrawal of the words, "with Medicine, Surgery, or Pharmacy," and—"or to the like effect"—is there a man amongst us who would on that account have declined the Bill.

Is there one with so small a spark of liberality and kindliness that he would have declined a Bill which insured to all who henceforward adopt the profession of Dental Surgery a liberal education, a competent knowledge of his profession, and a good professional position, because with a due regard to the interests of existing practitioners we could not ensure the initial registration against abuse,—because the name of a person he regards as his inferior professionally and socially, indeed, as no Dentist at all, may occur on the same page with his own, coupled with a statement which guarantees neither education or professional knowledge, that the person named was "In practice before July 22nd, 1878?" If there be such a person, surely, in the presence of more generous natures, and especially in the presence of our younger men, he will for ever wear the mantle of shame.

So much for the past. The future brings with it many duties. The Register requires to be cleared of the names of those who were not in *bonâ fide* practice on July 22nd, 1878, but who have gained entrance thereon by fraud. Then, again the Dental Committee reports—that in the list we sent in to the Medical Council, are included the names of an unspecified number of apprentices of Chemists and Druggists who have no right to remain on the Register.\*

It will be for the Association to direct its attention to each class of case, and now that the field of operation has been narrowed and defined by the Solicitor-General, encouragement is given for increased activity on the part of the Association.

The following Resolutions were passed:—

"That the Executive Committee of the Medical Council be asked to furnish to the Association a list of those persons who are described as 'apprentices to chemists and druggists,' at page 14 of the Council's Minutes for February 1881."

"That the Representative Board of the British Dental Association, beg respectfully to thank the General Medical Council for the

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\* Minutes of Dental Committee, October 29, 1880.



prompt consideration it has given to the elucidation of certain provisions of the Dentists Act, upon the interpretation of which considerable difference of opinion prevails."

## Re Dentists Act, 1878.

*Counsel's Opinion as asked on Certain Points by the Representative Board of the British Dental Association.*

### QUESTION.

Can the Medical Council remove from the *Dentists' Register* the words "with Pharmacy" at the request of a registered person who obtained registration by an incorrect or fraudulent declaration, to the effect that he was engaged in the *bonâ fide* practice of Dentistry with Pharmacy, but who not being registered in the *Chemist and Druggist's Register* could not himself legally practice Pharmacy, although in the employment of a registered Chemist and Druggist, or of a medical practitioner, as a pupil or unqualified assistant, and being so employed could not have lawfully signed the declaration necessary to registration, *i.e.*, that he was engaged in the *bonâ fide* practice of dentistry separately, and hence could not have obtained registration otherwise than by misrepresentation.

WESTMINSTER, January 27th, 1881.

### OPINION.

I am of opinion that the General Council can and ought in the supposed case to erase from the Register the words "with Pharmacy" as being an incorrect entry within the meaning of the first paragraph of Section 13 of the Dentists Act. If the registration was obtained by a false or fraudulent representation, the person making the representation is clearly liable to punishment under Section 35 of the Act, and the whole entry might be erased as fraudulent.

G. A. R. FITZGERALD.

## COUNSEL'S OPINION AS ASKED UPON THE FOLLOWING POINTS.

### QUESTION.

(1.) A. B. not being registered in the *Dentists' Register*, personates C. D., who is registered in the *Dentists' Register*, and carries on a Dental practice for and in the name of, but without the presence or

### OPINION.

(1.) If A. B. uses the name or title of Dentist, or any other name, title, or description referred to in Section 3 of the Dentists Act, without being registered, he is liable to conviction under Section 3; but

## QUESTION.

personal aid of C. D. Is A. B. liable to conviction under Section 3 and 4 of the Dentists Act?

(2.) John B., who is registered in the *Dentists' Register*, assuming the name of Harry B. or some other christian name other than that in which he is registered, practices under the assumed christian name. Does John B. thereby render himself liable to conviction under Section 3 and 4 of the Dentists Act?

(3.) Is personation a punishable offence under the Dentists Act?

(4.) Can the Executive Committee of the Medical Council under the standing order 15, "The Executive Committee shall carry out generally the provisions of the Dentists Act, in accordance with the Council's resolutions thereon," authorise prosecutions under Sections 3 and 4 of the Dentists Act.

## OPINION.

if he only practises Dentistry at the address of a registered person, I do not think that he comes within the provisions of Sections 3 and 4.

(2.) Sections 3 and 4 have no application to the case of a registered person assuming another christian name than that in which he is registered.

(3.) I am of opinion that personation is not a punishable offence under the Act, save as far as a person procuring or attempting to procure himself to be registered by representing that he is some other person, is expressly made punishable by Section 35. However, an unregistered person personating a registered person would probably bring himself within Section 3 by using some name or title, and contrary to the provisions of that Section.

(4.) The Dentists Act itself does not in my opinion authorise the General Council to delegate their functions under Sections 3 and 4 to the Executive Committee, and is open to amendment in this respect. It might possibly be held that the standing order (15) is warranted by Section 9 of the Medical Act, 1858, which empowers the Council to delegate to their Executive Committee such of the powers and duties vested in the Council as the Council may see fit, and that consequently the Com

mittee could authorise a prosecution under Sections 3 and 4. But I retain the opinion formerly expressed, that a private person could not safely be advised to proceed, relying only on the consent of the Executive Committee.

WESTMINSTER, *January 27th*, 1881.

G. A. R. FITZGERALD.

### Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

"THE DENTAL EXAMINATION OF THE COLLEGE OF  
SURGEONS OF ENGLAND."

SIRS,—A license in Dental Surgery being now necessary in order to practice our speciality, I should be glad if the College of Surgeons of England would see fit to modify their Examination.

In the first place, I would suggest that the Examination be divided into two parts—a Primary and a Pass Examination. I would suggest that each candidate be required to enter himself for the ordinary Primary Examination as held for the M.R.C.S. The standard for the Dental Diploma need not be so high as for the Membership, but if a candidate passed sufficiently well, he would be enabled to present himself for the Membership in due course, without further examination in Anatomy and Physiology. Again, this College requires each student to attend certain courses of Lectures (to wit, Chemistry, Metallurgy, Materia Medica, Medicine, and Dental Mechanics), but inasmuch as candidates are not examined upon these subjects, the lectures are practically of little or no use. Now, if these subjects are of importance to us, and of this there can be no question, why should not papers be set at the Primary Examination in Chemistry, and Materia Medica, and at the Pass Examination in Medicine and Mechanics?

The Curriculum and the Examination would then be consistent, the one with the other, the advantage of which appears to me so evident, that I deem comment unnecessary.

I am, Sir,

Yours faithfully,

A PRACTITIONER.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

GENTLEMEN,—Will you kindly grant me space to correct two errors which occur in an article which appeared in the last number of the "MONTHLY REVIEW"; which was headed "The Dental Diploma: *Sine Curriculum*." It is there stated that:—

1. "The doors are opened *sine curriculum* to all respectable practitioners by Dublin, Edinburgh, and Glasgow, *till August, 1881*."
2. "The examinations are of a practical character, and not severe for those already in practice, if fairly well up in their profession."

In answer to these statements allow me to point out.—

1. There is no limit of time fixed at either Edinburgh or Glasgow, after which examinations, *sine curriculo*, will cease; as any one who will read the regulations for himself can find out. In the case of Edinburgh, I have the assurance of the Secretary to the College to back me up in this statement.
2. It is distinctly stated in the regulations of the Edinburgh College, that the Examinations, *sine [curriculo]*, shall be passed on the same subjects, and in the same manner, as is required for the examination *cum curriculo*.

I have written this because I have seen both the above errors repeated very frequently; and it is not desirable that gentlemen, thinking of going up for Examination at either Edinburgh or Glasgow, should be on the one hand deterred, by being led to suppose they have not sufficient time for preparation, or on the other hand encouraged to go up without sufficient preparation upon the supposition that the examination *sine curriculo* is an easy one.

I remain, Gentlemen,

Yours truly,

JAMES M. NICOL.

Leeds, 2, Clarendon Road, *January 18th, 1881*.

TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

GENTLEMEN,—In the January issue of the "MONTHLY REVIEW OF DENTAL SURGERY," at page 41, are some remarks made by a



gentleman signing himself L.D.S., Eng., that I think ought not to pass unchallenged.

He expresses his disbelief in the effects of attrition ever opening the pulp cavity, stating that such a condition is always guarded against by deposition of Dentine of Repair at the threatened points of exposure.

There can be no doubt that as the teeth are worn down, the pulps become ossified to a great extent in the act of self-preservation.

The crowns of molar teeth, more especially as seen in the skulls of savage races, are frequently worn almost to the margin of the alveolars without the life of the nerve being endangered.

Such teeth will indicate in Dentine of Repair, and I take Mr. Salter's application of that term in contra-distinction to osteodentine, the outline of the original pulp cavity in the more recently formed osseous structure. It not infrequently happens, however, that the destructive overtakes the reparative process. Not long since I saw a gentleman about fifty years of age, who sought advice respecting an upper and apparently sound canine tooth, which for some days previously had caused him intense pain. The tooth was considerably worn by mastication, most of the upper molars being absent. Judging from the symptoms, he having had intense continuous pain accompanied by neuralgia of the face, and also from the dusky appearance of the tooth, that the nerve had perished, I after careful search, found a minute opening into the nerve canal, and through which I was able to pass the finest hair brooch, and this to the full extent of the fang without causing pain.

I accordingly opened up the canal, and found the nerve dead, but not as yet disintegrated. I removed the dead nerve, and thoroughly cleansed the canal from all septic matter, then stopped it at once and permanently, using cotton wool dipped in carbolic acid. In such cases as these, where there is a portion of the nerve at the end of the fang still maintaining its fibrous character, I do not think any fear need be entertained of trouble from the tooth afterwards, beyond the slight tenderness often resulting from the destruction of a nerve, in the usual manner with arsenious acid. This tooth was at once perfectly comfortable, and is likely to be serviceable for many years to come.

In the mouth of the same patient the pulp cavity in an upper molar had previously been opened by attrition. As there were

but few remaining upper molar teeth, I advised wearing a plate in mastication, and also as much as possible to prevent, what I certainly cannot agree with is such a very rare occurrence, the opening of the pulp canal by attrition.

Yours faithfully,

ROBERT H. WOODHOUSE.

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TO THE EDITORS OF THE "MONTHLY REVIEW OF DENTAL SURGERY."

SIRS,—The tone adopted by "L.D.S., by curriculum," in replying to Mr. Renshaw, is to be regretted, to explain what "every Dental Surgeon knows," to ask if Mr. Renshaw had ever heard of the Dentine of Repair, assuming, of course, that he had not, was decidedly uncourteous; especially so as one cannot fail to observe the remarks and experience of L.D.S., by &c., are the merest platitudes, ignoring the strange circumstance, mentioned by Mr. Renshaw, of an alveolar abscess on an alienated tooth, and throwing no light on the "*vexata quæstio*" of replantation.

Our regret is intensified upon discovering that L.D.S., by &c., has begged the whole question of exposed pulp; Mr. Renshaw does not mention it as being exposed.

It may be fairly asked whether L.D.S., by &c., is aware that dentine from which the enamel has been abraded is often extremely sensitive of thermal change, salt, &c., dentine of repair notwithstanding, and so hard as to preclude drilling through it on account of the suffering that would be inflicted thereby; also one may question whether L.D.S., by &c., is aware that dentine contains a system of canaliculi somewhat analogous to that of the cementum by which communication is supposed to be established between the pericementum and the pulp.

Mr. Renshaw may have considered that, to render sensation in the dentine impossible, it was necessary to remove the pericementum as well as the pulp; the treatment was so far successful that, according to Mr. Renshaw, his patient had the good service of a useful tooth for about two years.

In conclusion, how much better it would be were gentlemen, replying to signed communications, to sign their names, that we may know whose experience we are reading.

I remain, Sir, yours &c.,

GEORGE H. STREET.

3, Hill Rise, Richmond, Surrey,

*January 24th, 1881.*

[We acknowledge Mr. Longhurst's (of Leicester) letter, and must refer him to the present and late numbers of our journal for his reply.]

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## Reviews.

*A Practical Treatise on Mechanical Dentistry.*

By JOSEPH RICHARDSON, D.D.S., M.D.

Philadelphia: Lindsay and Blakiston, 1880.

DR. RICHARDSON'S book is in most respects an excellent one. He is thoroughly master of his subject, and all the materials of which the work is made up are well arranged. We are not, however, able to explain why the author should have levied contributions from so many other writers without stamping the work with the evidence of his own knowledge of the nature of the processes described. Dr. Richardson shows such a competent knowledge of all those departments about which he has manifestly written himself, that it is difficult to understand why he should teach through the medium of other men's writings to the extent that he has done. We have no prejudice against "extracts," "elegant" or otherwise, but when out of a book of four hundred and thirty eight pages we find a hundred and twelve pages ascribed to their respective authors, and appearing in their original words, it seems almost as if the articles should have been produced as part of a system of Dental Mechanics, edited by Dr. Richardson, rather than in their present form. We recognise fully the value of the contributions to which we have felt it necessary to draw attention, but we protest against the preparation of a text book in a way that suggests such a very unrestrained use of the scissors and paste. Having thus cleared the ground, we readily accord Dr. Richardson the fullest praise for giving to the profession a treatise that has become increasingly useful with each successive issue.

Looking through the contents of the earlier chapters we notice, an interesting but misplaced account of the antiquity, geological situation, and geographical distribution of gold. Doubtless, to the thoughtful and laborious student of Dentistry it will be satisfactory to know where he can find the gold with which he wishes to perform his operations, but it might develope a terribly excursive habit of mind, and who can tell how it might upset for ever the sedentary temperament that is such an essential characteristic, not only of the student but of the Dentist.

As soon, however, as Dr. Richardson is settled down, as it were, to real work we find instruction, full and lucid on nearly every page. It would be as tedious as it is unnecessary to review all those processes (therein described), with which every well educated Dental Surgeon is personally familiar, and we must content ourselves with pointing out those sections to which particular interest attaches on account of the novelties of which they treat.

In this respect the articles (for they are many), on the various methods of attaching artificial crowns to healthy roots are very interesting. To what extent the operations recommended are available for every day practice, time alone can show. A chapter on Gold Alloy Cast Base is valuable as giving us a new process, by which artificial teeth may be mounted on a metallic base, but it is doubtful whether such methods will in this country, supersede the use of gold plates and vulcanite. The legal hindrances to the free use of vulcanite in the United States have clearly this value, they have quickened the inventive powers of our transatlantic friends, and given us as a consequence, a number of ways of mounting teeth for the mouth that we should probably never have heard of in the ordinary nature of things. Celluloid was, doubtless, brought forward as a means of meeting the difficulties arising from the prohibitive rights connected with the vulcanite patents, hence all these processes have a greater interest for American than English readers. The section on the treatment of palatal defects is written by Dr. Kingsley, and contains nothing more than that with which we are already acquainted through other publications. In conclusion it may be said, that although the book is written primarily for students, it will be found to contain a good deal of interesting matter to the practitioner of Dental Surgery, and it may safely be recommended for the clearness of its arrangement, and the soundness of the teaching which it contains.

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### Odontological Society of Great Britain,

AT the ordinary monthly meeting of this Society which took place on the 7th inst., at the Dental Hospital, Leicester Square, Mr. Thos. Rogers, the newly elected President, took the chair for the first time, and delivered his inaugural address, which will appear in our next issue.

Mr. COLEMAN showed two upper temporary canines.



with bifurcated fangs, and another in which the root was deeply ground on each side, and showed a tendency to bifurcation. He remarked that as these teeth were seldom extracted until the roots were more or less completely absorbed, it was possible that this irregularity might not be so very uncommon. He also showed a second lower bicuspid with two divergent fangs, which he had extracted from the mouth of a female at the Dental Hospital. He believed this to be one of the rarest examples of this sort of irregularity.

Mr. HUTCHINSON showed an upper bicuspid with three fangs, which had been presented to the Museum by Mr. Brindly, of Sheffield.

Mr. TOMES showed a first upper molar, which had been sent to him by Mr. Tod, of Brighton; it had a small enamel nodule on the anterior surface of the neck, below the ordinary level of the enamel, and a similar nodule on the posterior surface. When this tooth had been extracted, it was observed that the second molar had a similar excrescence on its anterior surface, but as it was not extracted, it could not be ascertained whether the growth was symmetrical in this case also.

Mr. TOMES also showed a portion of an elephant's tusk, in the interior of which a bullet was found imbedded, surrounded by a large mass of secondary dentine. And two specimens of ivory from the tusks of the extinct mammoth, which are obtained from skeletons, found in Northern Siberia.

Mr. HUNT, of Yeovil, showed some small diamond drills which he had obtained from Mr. Glen, of 370, Kings Road Chelsea. They were made of various sizes from  $\frac{1}{32}$  inch to  $\frac{1}{8}$  inch in diameter, and cost only a shilling. He had found them very useful for drilling artificial teeth.

Mr. COLEMAN suggested that they might sometimes be useful for drilling teeth in the mouth. It was sometimes difficult to make an impression on the enamel with a steel instrument, it was apt to slip. He thought that a commencement might be made with one of these drills.

Mr. ISIDORE LYONS related the case of a man who swallowed his false teeth whilst asleep. He awoke in the night with a feeling of choking, got up and went to a neighbouring doctor, who attempted to push the plate into the stomach with a probang; but this not succeeding patient came to St. Bartholomew's Hospital. Next day Mr. Thomas Smith after several attempts succeeded in seizing and extracting the plate with a pair of long oesophagus forceps. It was impacted at quite the lower end of the gullet. At the end of a week the patient was able to resume his ordinary diet and was discharged quite well.

Mr. WEISS said that his enquiries had shown that these cases were more common than most people supposed. In cases where the teeth passed into the stomach the best treatment was to give the patient plenty of thick oatmeal porridge in which a quantity of cut up worsted had been mixed. This would become entangled round any sharp points or hooks and would greatly diminish the risk of injury to the stomach or intestines. The worst thing to do as to administer purgatives.

Mr. CHARTERS WHITE mentioned the case of a lady who swallowed a plate which had been attached to adjoining teeth by rigid wires. He recommended a diet of suet dumplings and new bread. The plate passed without accident two days later.

The SECRETARY showed an old fashioned lower denture, which had been sent up by Mr. Paxton Harding of Canarvon. Having been accidentally broken, the patient had mended it himself in a very ingenious manner.

Mr. CANTON mentioned the case of a child aged  $6\frac{1}{2}$  years who although very intelligent, evidently understanding all that was said to her, did not speak. About four years ago she had once spoken a word or two but could never be got to repeat them. She had not been subjected to any fright and had never had any severe illness; her teeth and mouth were normal except that the palate was a little high and all the rest of the family had learnt to talk at

about the usual age. He should be glad to know if any other member had met with a similar case, and whether he should be justified in holding out hopes of improvement to the parents?

Mr. HUNT said a girl 11 years old had been brought to him in an exactly similar condition. He had suggested that a change may occur at the age of puberty.

Mr. HUTCHINSON said he knew a family of four children none of whom learnt to talk till they were five years old; one boy, now aged four, could only speak a few words.

Mr. STOCKEN related the case of a gentleman between 60 and 70 years of age, who came to him complaining of great discomfort due to the presence of a calculus embedded in the wall of the pharynx. It was about the size of a pea, and had been about three years in forming. The patient had had several in the same situation. Mr. Stocken removed it, and in order to diminish the chance of a return carefully removed all *débris* from the small crypt by means of a syringe.

The PRESIDENT then announced that a paper had been promised for the March meeting by Mr. Charters White, and for the April meeting by Mr. Stocken.

The Meeting then terminated.

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### Appointments.

William Willis, L.D.S., R.C.S.I., of Halifax, has been appointed Hon. Dental Surgeon to the "Shibden Hall Industrial School."

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### Midland Counties' Branch of the British Dental Association.

THE first Annual Meeting of this Branch will be held in Liverpool on the last Wednesday of April. Gentlemen who may be willing to read papers, or who may have any casual communications to offer, are invited to send their names and title of their paper to the Secretary as soon as possible.

10, Oxford Street, Liverpool.

W. H. WAITE,

## Obituary.

THE Dental Profession has suffered a sad loss in Dr. Andrew Wood. Although when the Dental Bill was first brought before his notice he had doubts as to its action, on further consideration he became an active and firm supporter of the measure. At the Medical Council he seconded the motion of Sir James Paget, "That the Medical Council approves the portion of the (Medical) Bill that relates to the registration of Dentists." The portion of the Dental Section thus approved differs in no material point from the Dentists Act, the latter having, under the direction of the Government, been made to conform to the aforesaid section.

After the Act had become law, Dr. Andrew Wood devoted himself to carrying into effect its provisions. He was one of the Committee of four which determined the details of the Dental Curriculum, and became a member of the Dental Committee, the meetings of which he never failed to attend. In fact, no action in dental affairs was taken by the Council without his active assistance. What Dr. A. Wood thought of the work to which he devoted himself with so much energy, may be gathered from his own words at the dinner of the Odonto-Chirurgical Society in proposing its prosperity. He said it was to him "a source of the greatest comfort and happiness that at last the Dental Profession was being put upon its proper foundation. It was long tabooed as a non-scientific and non-medical profession, but that could be said of it no longer. The Parliament of this country had now instituted a registry for Dentists, and it remained for Dentists to show they were worthy of it."

The younger members of the profession who have been, and who will be, in an ever increasing degree benefitted by the professional position secured to them by recent legislation, will do well to remember that from them a debt of gratitude is due to one whose loss all honest men must lament, and who will be remembered with affection



by all who had the advantage of his personal acquaintance.

We copy the following obituary notice from the *British Medical Journal*:—

“It is our painful duty to-day to record the death of Dr. Andrew Wood, Edinburgh, on Tuesday, January 25th, at the age of seventy years.

“Dr. Wood was the son of a well-known surgeon in Edinburgh, the late Mr. William Wood; he graduated as M.D. in Edinburgh in 1831, and in the same year became F.R.C.S.E. Since that time he has practised in Edinburgh with much success, and with the warmest friendship of his numerous patients. In 1879, he was made an LL.D. Edinburgh, and in 1880 LL.D. Cambridge.

“It was not as a physician alone that Dr. Wood was so well known, but as a highly cultured scholar; during the later years of his life, he enriched our general literature by the publication of a number of translations from classic and foreign languages: thus, he was the author of a translation of the “Satires of Horace” into English metre; Schiller’s tragedy of “Don Carlos” into English blank verse; “Epistles and Art of Poetry of Horace” into English metre; Lessing’s drama of “Nathan, the Wise” into English blank verse; Schiller’s “Lay of the Bell, and other Ballads,” into English metre. He was a member of the different medical societies in Edinburgh, and a member of the General Medical Council, at the meetings of which he was a vigorous exponent of the views of the Scottish medical schools, and an ardent defender of their rights and privileges. He held the appointment of Inspector of Anatomy for Scotland, and was Surgeon to Heriot’s, Merchant, Maidens, and Trades Hospitals. Previously, he had been President of the Royal College of Surgeons of Edinburgh, Medical Officer of the New Town Dispensary, and President of the Royal Medical Society.

“Dr. Wood’s life was thus a busy one in a professional and public capacity, and yet in this last he found time to act as a keen politician in State and Church. A few

months ago, the writer of this notice (on the occasion of Dr. Wood mentioning to him that he had been fifty years in practice) suggested to him the desirableness of some rest from his many labours; but Dr. Wood repudiated such an idea, and said he believed he should "die in harness." Never was a saying more literally fulfilled. For a few days Dr. Wood had been out of sorts, but on Tuesday he made his round of visits, called at a publisher's and had a look at some periodicals, then drove home. When the carriage arrived there, Dr. Wood was lying in it insensible; he was at once removed, and was seen almost immediately by Sir Robert Christison and Dr. Haldane, but within a short time he was dead. It is difficult to believe that his manly form will be seen no more in the streets of Edinburgh, nor in the meetings of the educated and professional world; and that the kindly ring of his well-known voice will be heard no more. By professional friends his loss will be deeply regretted, and he will be mourned for with a heartfelt sorrow by the many patients to whom he has been a lifelong conscientious physician and sincere friend."

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DEATH OF MR. NORMAN KING.—A greatly esteemed citizen of Exeter died on Christmas morning, at his residence in Bedford Circus—Mr. Norman King, J.P. The deceased gentleman, who was in his 70th year, had been unwell for some time. He was well known and valued throughout the county as a skilful surgeon-dentist. Though of unostentatious and retiring character, he had borne his part as a prominent citizen, having occupied the position of Alderman in the Town Council, and filled the office of Mayor of the city. He was a Conservative in politics, kindly-hearted and charitable, and ever willing to do timely service to the poor. About eight years ago he was appointed to the City Commission of the Peace. His wife, a daughter of Mr. Charles Brake, wine-merchant, died a few years since, and he leaves two daughters, and

two sons belonging to the profession to which he devoted his life.

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MR. JOHN CROOKS MORISON, L.D.S., Eng.—Many readers of the Journal will learn with sad surprise of the untimely death of this young and most promising practitioner. At the early age of twenty-four he has fallen victim to a virulent attack of typhoid fever, which pulled him down with great rapidity, and ended fatally within a week of his being laid up.

Few men, at such an age, have been called upon to take so active a part in promoting the interests of our profession, but to an exceptional opportunity Mr. Morison brought exceptional talents. On him his grandfather's mantle seems to have fallen, and with his name he appeared also to have inherited an enthusiastic love of his profession. A native of Glasgow, but latterly residing in London, Mr. Morison enjoyed many and great advantages as pupil with Mr. Alfred Hill, and as a student at the Dental Hospital, Leicester Square. Immediately on coming of age he obtained the L.D.S. of the Royal College of Surgeons, and, returning to his native city, entered upon the management of the practice of his late grandfather, Mr. John Crooks.

Thus freed from the depressing anxieties inseparable, in most cases, from originating a practice, Mr. Morison threw himself heartily into the work of promoting the general interests of his profession in his native city. From the first meeting, from which all that has been done in connection with Dental education in Glasgow dates, to within some ten days of his death, he took active part in all that was doing.

Mr. Morison held the appointment of Lecturer on Dental Anatomy and Physiology at the Dental School, Dental Officer at the Dental Hospital, and Member of the Medical Faculty of Anderson's College. On the formation of the Students' Society he was elected President, and through-

out has taken a very active interest in promoting its welfare.

In private practice Mr. Morison's career was a continued success, his frank and gentlemanly bearing, together with his thorough knowledge of his profession, gaining for him a most favourable reception. Amongst his colleagues at Anderson's College he was greatly esteemed; clear-headed, conscientious, and thoroughly to be relied on in whatever he undertook, his counsel and assistance will be much missed by them, and his memory will be cherished as one of the most agreeable reminiscences of a most eventful time. His remains were escorted to their last resting place by his colleagues on the Dental staff, and a goodly number of past and present students.—*Brit. Journ. of Dental Science.*

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On the 15th of January, at 17, Old Square, Birmingham, Edward Pritchett Warren, L.D.S.Eng., in his 63rd year, deeply regretted by a large circle of friends.

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## Annotations.

### LEGISLATION FOR DENTISTS.

Although the Bill for regulating the practice of Dental Surgery has now been in existence for two years, still very little is popularly known as to its character, or the way in which it affects the general public. It is a measure of considerable public importance, and in many points resembles the earlier Acts passed for the better organization of the medical profession. Prior to 1878 anyone, and everyone, who chose, was at liberty to call himself, or even herself, a dentist. After Sir John Lubbock's Bill became law, it was necessary for all these practitioners to apply to the General Medical Council, and give such particulars as were necessary for the publication of a Dental Register; this register is issued by the Council every year, and eighteen hundred and fifty-six copies are sent all over the United Kingdom, to be deposited in the various local law courts. This is necessary for the purposes of justice, as no dentist can now recover a fee for professional services, unless his name be on the Register, whilst the annual publication of the list is rendered necessary, in order that those who may be concerned in a case can ascertain whether any particular person has had his name removed from the Register, by order of the General Medical Council. Such is a contingency not at all unlikely to arise for the next year or two, as it is



no secret, that a number of names that should never have appeared, have found a place on the list. All these irregularities are of course inevitable in the first working of a new Act, but they will soon be remedied, and the public placed in possession of a Register, that will be subject to but slight alterations from year to year. This compulsory registration, though of extreme value as means of recording the names and addresses of all legal practitioners, is by no means the most important part of the Act. The clause rendering a proper education essential for all dental students is likely to prove of far greater importance, as it will give an annual supply of well-educated dental-surgeons to fill the places rendered vacant by the death or retirement of the senior members of the profession. It is not necessary to enter into the details of the prescribed curriculum, but it is of a nature very similar to that which is essential for the ordinary medical student, only those changes being made, which are essential to the special requirements of the dental surgeon. The licences in dental surgery granted by the various Colleges of Surgeons in the United Kingdom, must henceforth bestow upon their possessors a definite and valuable professional position, and the public will learn by a reference to the Dental Register who is possessed of this diploma, and also who may be practising simply under the claim to be admitted to the roll of dentists, as having commenced practice prior to the passing of the Act. So far, Parliament has done its share of protective legislation, guarding the patient on the one hand from the unscrupulous charlatan, and the dental surgeon on the other, from necessary association with ill-educated or totally uneducated pretenders to professional skill. It must, however, after all, rest for a while with the public to exercise that intelligent discrimination in the choice of a dentist which can alone make the operation of the Act thoroughly useful and efficient. — *British Medical Journal*.

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#### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.P.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

MARCH NUMBER will be withheld till Subscriptions are paid.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

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Midland Counties Branch of the British Dental Association.

THE First Annual Meeting will be held in Liverpool, on Wednesday, May 4th.

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A SPECIAL time is allotted to "Casual Communications," and the Secretary will be glad to receive notice from Members or Associates willing to contribute, so that full particulars may appear in April REVIEW.

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IN response to a very urgent requisition, signed by every Member of the Council, Mr. CAMPION has kindly consented to accept the office of President for the ensuing year.

10, Oxford Street, Liverpool.

W. H. WAITE,  
Hon. Sec.

THE JOURNAL  
OF THE  
BRITISH DENTAL ASSOCIATION  
A  
*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. III.

MARCH, 1881.

VOL. II.

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Finance.

THE present issue of the Journal is noteworthy, as containing the first balance sheet of the British Dental Association. It is always a matter for congratulation, if an Association or Company can show at the close of its first financial year, that most coveted item in all accounts—a balance in hand. The first year's existence of any Community is always a time of grave anxiety. The British Dental Association has not only safely but triumphantly passed through that period of trial, and at the end of the financial year, we may fairly congratulate the Members upon the position in which they find themselves. It may reasonably be hoped that certain heavy items of expenditure that appear in the balance sheet will not be seen again. We refer to the amount paid for legal advice. That this money has been well expended, all will admit, and we must be thankful to the General Medical Council for saving us from the necessity of further disbursements in a similar direction. Nor shall we have again the cost of preparing the articles of Association, by which we are constituted a corporate body. This is an item incident to our creation, and not likely to recur as essential to our existence.



There are, on the other hand, many sums on the side of Expenditure that we may reasonably wish to see increased during the present year, such, for instance, as banker's commission on collection of cheques—nor must we omit to refer to one other increase in our payments, which should certainly appear before very long, that is a salary to a General Secretary. This is neither the time nor the proper place for referring to all that we owe to our Honorary Secretary for his self imposed labours, but it would be both unjust and inexpedient to allow him to continue to work in the future, in the way in which he has been compelled to do in the past. It is unjust to encroach to such an extent as we have done on the limited time of a well occupied practitioner, in the full tide of his career—it is inexpedient to permit Mr. Turner to perform such duties as might be equally well performed by a mere clerk or General Secretary. Mr. Turner's knowledge is now too valuable to be turned to such an account, and we would urge upon our readers and the Executive Council, the necessity of relieving our Honorary Secretary from those routine duties that others might as well carry out, and to avail themselves in more important directions of the administrative capacity and indomitable will that he has displayed since the foundation of the Association. We therefore trust that in our next balance sheet along with an augmented income, we may find a statement of the amount of salary paid to a General Secretary. If it be true that "nothing succeeds like success," then, assuredly the British Dental Association has a brilliant future before it. Those who promoted it believed in the necessity for its formation. Those who now join it will be they who are convinced of its utility and prosperity.

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## Reform.

IN the curious history of *Rasselas*, by Dr. Samuel Johnson, we have a chapter devoted to "The wants of a man who wanteth nothing." There is ample internal evidence to show that the individual in question was not a Dental practitioner. If those who have taken an active part in Dental legislation were not fully convinced of the truth of the axiom that "man never is, but always to be blessed," they might well show signs of despondency, if not of despair, under the gentle, but perpetual dropping of "the cold water of discontent" by those who, not thankful for that which they have, must needs deplore the lack of that which they cannot obtain.

We are sincerely sorry for the mental depression of some of our correspondents, and if our columns continue to receive such unencouraging epistles, we shall begin to be sorry for ourselves. An Act of Parliament will not do everything. It rarely does all that it was even intended to accomplish, and to change the nature and the motives of man by legislation would require a power that even in the days of the Ptolemies would have been thought unattainable.

There are some things that cannot be done, and at times the impossible must needs be built into the wall with the unknowable, two solemn figures of unknown quantity for men to wonder at and then pass by.

But to return to a more practical view of the case, we would urge upon our readers and correspondents the important fact that precisely where the Dentists Act fails, the influence of the British Dental Association must succeed. On the occasion of an important discussion some years back on "The Mayne Liquor Law," it was asserted that the English public would not tolerate such restrictive legislation, but a well-known advocate of temperance said

very wisely, "Give us the children for our Bands of Hope, and we will make a 'Mayne Law' for ourselves." This is precisely what our own profession has to do. Let our students be educated in accordance with the provisions of Dental enactments, and we shall create a moral power that will be stronger for good than any Act of Parliament, and more influential on the side of true professional feeling than any printed code of ethics.

Let those who despond remember that "time is all on our side," and although we may not obtain the results we desire, so soon as we could wish, it does not therefore follow that we desire that which is impossible.

If the energy expended in grumbling were but conserved for the purpose of carrying out the intentions of the British Dental Association, what an amount of force would be placed at our disposal. Local branches would be increasing in all directions; laborious investigations would be 'patiently pursued; invention would be stimulated by generous but competent criticism, and those who now go about crying out "who will show us any good?" would find their time fully occupied in demonstrating that which their mental culture shows them capable of accomplishing, namely some distinct contribution to the scientific progress of Dental Surgery.

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### Progress.

THE number of Members at present on the books of the British Dental Association is not by any means so great as it should be. It probably takes those who have not interested themselves in political events, a long time to realise the advantages of such a combination, and it is, perhaps, essential that they should understand that mem-

bership is likely to prove a distinct benefit to each one individually, as well as to the profession collectively. We would submit the following points for consideration to those of our readers who have not yet given us the moral support of their name, and the material support of their subscription. The association of professional men is essential, firstly, for the purposes of maintaining common interests; secondly, for promoting mutual confidence; thirdly, for stimulating social and scientific progress. The position a profession takes socially depends to a very great extent on the estimation in which its Members hold each other. Divided councils must weaken any profession, and if these councils be held on different platforms, so that their Members cannot meet on neutral ground and have the chance of better understanding each other's motives, then, assuredly, progress will be retarded and reform hindered. Now, the British Dental Association provides such a neutral ground for mutual good understanding, and is on this account essential to the well-being of the entire profession. But above all things the work of the Association lies in the direction of real scientific labour. That men should work is well that they should freely communicate the results of their labours to others, is still better. The Association, with its branches, affords the readiest means for the largest number, of practitioners doing this in all parts of the country.

We must help each other, we must trust each other. To accomplish these ends we must know, so that we may respect, each other. And it is to the British Dental Association that men must turn that these results may be fully realized.

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## The "Curriculum" for the English Licentiate'ship in Dental Surgery.

By T. FRANCIS KEN UNDERWOOD, M.R.C.S., L.D.S.,

*Dean of the Dental Hospital of London.*

IN putting forward the following considerations with reference to the existing system of the education of Dental Students, it should be borne in mind that we have much reason to be thankful for the steps already gained, and it is in no captious spirit that I venture to suggest alterations which it seems to me would be improvements.

The subjects, as I propose to deal with them, are as follows:—

Firstly—The Preliminary Examination in Arts.

Secondly—The Apprenticeship.

Thirdly—The System of Teaching by Lectures.

Fourthly—The System of Teaching by Demonstrations.

Fifthly—The Examination of the College of Surgeons.

To commence with the Preliminary Examination in Acts.

It is impossible to overestimate the importance of this test, or to fully realize the effects of its abolition—it is the only means open to us for ensuring that Dental Surgeons shall be fully educated men, and upon it, and *it alone*, depends whether or no our branch of the surgical profession shall consist beyond doubt, of persons who have received such teaching as shall enable them to mix in society on the same level as the members of the learned professions generally. We cannot insist too strongly upon the fact that to lower the present standard of this Examination would be to deal a serious blow to our real efficiency and position before the world. Upon the education each person receives in his boyhood and youth depends the fuller education and bringing out of the intellectual faculties which will enable him to comprehend the subjects he must make it the business of his life thoroughly to understand and master. It will be allowed by all that the mind of every individual must be prepared in the earlier years

of life to receive the impressions which it is the object of professional education to make peculiarly his own, and upon the proper reception of which the success of the practitioner's professional life in large part depends. The practical test of such sufficiency is the Examination in Arts, hence its great value as a factor in education, and it is of the utmost moment that this should be fully recognised by the authorities with whom its continuance rests.

To pass on to the subject of the three years' Apprenticeship in the work-room, before the Surgical Education commences, it has been objected (and the objection at first sight does not lack plausibility), that the mechanical part of Dental Surgery lowers its surgical aspect, and to a certain extent brings a profession down to the level of a trade—that is to say, if we sent our mechanical work to mechanics as a Surgeon sends his patients for a truss or a splint, it would be more dignified and more professional. In the first place the case is not a parallel, for the mouth in its delicacy, and the mechanical treatment it requires is distinct from any other part of the body—the leg or the arm, for instance—and demands a personal supervision on the part of the professional adviser which could not be given by proxy; and it may fairly be argued beyond this that the Surgeon would be able to treat his cases more efficiently if the surgical apparatus which he needs were prepared under his own eyes, and by those whom he himself had taught. The Surgeon would surely not be the worse but the better for being able to make the instrument he requires, and his patient the better also. It is strange to complain of a professional man for knowing *too much*, for being too thoroughly a master of every branch of his work. Dental Surgery far from being degraded by its members' apprenticeship to the work-room is, it seems to me, *raised* to a position at present its own alone, that of requiring from its students a complete knowledge of all its branches. In the five years' curriculum provision has been carefully made that each portion of study shall receive its proper proportion in the scale; it is scarcely

necessary to say that if the mechanical or any other part encroaches beyond its proper sphere the balance is disturbed and the result faulty.

With regard to the much disputed system of teaching by Lectures, I am strongly of opinion, and always have been, that, *rightly used*, they take their due place in education. I cannot agree with those who think and say that they are worse than useless, because they waste time and energies that could be better employed; it should always be remembered that lectures are not, and never were, intended to supply the place of "reading at home," and it is not a thing to be wondered at if those who are under this mistake find lectures tedious and irksome. They are meant to furnish the student with the framework, and in private reading to be thoroughly worked out. The lectures are, or ought to be, the signposts on the road—the outlines of the design. Some have thought that their work for the day was done when they have sat passively still for hours, and been talked to, and measure their duties by the time they have spent in this hopeless and meaningless occupation; it needs little argument to show that to such persons any method of instruction would be equally tedious and profitless. With regard to the present classification and arrangement of lectures, there is little to be said, for experience has proved their utility—it is open, however, to discussion, whether they might not be advantageously added to. It seems to me that there is a distinct want of a course of teaching on Dental Therapeutics, and that a scheme proposing to supply this need would be gladly welcomed by all who wish to understand the properties of the drugs they use so freely in their every day work, and, as increased knowledge means increased skill, the benefit to the patients coming under their hands would be very great. It will, no doubt, be generally admitted that owing to absence of knowledge on this subject, persons often supply drugs because their fathers did so before them, or because in a bald way they know such and such an agent takes away pain, having really the vaguest

notion, if any at all, of the specific action of the drug on the part to which they apply it. In a science, such as Dental Surgery, such ignorance is disgraceful, to speak plainly, but the blame of such a defect in our teaching does not, of course, rest with the students, but with ourselves whose the responsibility of the teaching is. It is easy and ungracious to find fault without proposing a remedy, but to mention a defect with a suggestion for its removal is, I hope, free from any such charge. If then, to our existing scheme a single course on Dental Therapeutics could be added, it would increase the value of the Licentiate'ship; and I should propose the lectures be delivered in the first winter. One point has been strongly urged upon me by our late lecturer, Mr. Makins, and by our present lecturer on Metallurgy, namely, that the removal of the present course to the *second* winter would be a great boon both to the students and their teacher for the following reasons—Metallurgy pre-supposes an elementary knowledge of Chemistry which is taught at the General Hospital in the first winter, and the Metallurgical Lectures being delivered at the same time the students are necessarily ignorant of much that the lecturer is striving to teach them, and he is often compelled to break off his subject and endeavour to explain the Chemical Formulæ he is obliged to use; this involves a needless waste of time and seriously hampers him, whereas, if the metallurgical course was shifted to the second year, the preliminary Chemical knowledge will have been attained, and the ground prepared for Metallurgy. The Therapeutical lectures could then take the place of the Metallurgical in the first year, and the latter be moved to the second year with, it seems to me, an advantage not to be overestimated. It is not easy to make such a change as this off hand and at once, but the suggestion is now thrown out in the hope that at no very distant date it may be found possible to act upon it.

To pass on to practical demonstrations, which will be admitted on all sides to be of the utmost importance. These mean teaching the students all kinds of gold and



plastic fillings, and in doing this, our demonstrator has worked most successfully against many disadvantages; his method has now come to be that of personally visiting each pupil while his patient is under his hands, and of then and there showing him how to do his work. It remains to be seen whether, after all, this is not a more efficient means of teaching than by formal classes, for if we can supply to each student, *while he is operating*, the demonstrator's supervision, we place it in each man's power, if he chooses, to become a thoroughly skilful worker, and if such a scheme is to be as perfect as possible, each surgeon might in some way let the students see the manner in which he extracts, stops, or administers anæsthetics, so that they may have a practical acquaintance with the method of work peculiar to each operator, which cannot be the case if all the teaching is left in the hands of the demonstrator alone. This subject is, I admit, easier to theorise upon, than to set in thoroughly workable and satisfactory order, for we have been for some years endeavouring to make such arrangements as should help us to carry out to our liking the ideal system we have always had in our minds, and in time no doubt we shall fully succeed. It is felt by all engaged in teaching that demonstrations cannot of course be of one kind only, both the adhesive and non-adhesive systems must be taught side by side, and equally; many think that non-adhesive plugging should be first taught, as it is the kind of work Dental Surgeons are most called upon to adopt in private practice, and that afterwards instruction in adhesive stopping should be given. It may be objected that the two years of work are too short to teach one plan of stopping, to say nothing of two. To this I answer that in no profession can a man be turned out an expert from his training school—men can scarcely ever do more than make themselves familiar with the plan of their work—when they begin to practice for themselves, they must develope the knowledge their training has given them, and two years are sufficient to learn the elementary rules of gold filling,

and to become a passable operator at any rate, and probably a good one in both the distinctive methods. We have always felt at the London School of Dental Surgery that to be true to our trust we must ensure that our students are well taught both kinds of work. We have always recognised that we are bound to do this, and we have from the first felt that we cannot in justice to our pupils sacrifice this principle to our own preferences, our own likings or dislikings, for one method of treatment over another. In speaking of a scheme such as this I am dealing with—the best way of reaching the highest degree of perfection—the practical points require to be noticed. There remains only the final examination at the College of Surgeons to be considered. As at present constituted this examination occupies three days—the first being devoted to “the written,” the second to “the practical,” and the third to answering questions *vivâ voce*. If the suggestion of a course of lectures on Dental Therapeutics were ultimately carried out, it would, it is to be hoped, affect the written and *vivâ voce* examinations, otherwise the former could not well be altered for the better. The practical portion was started some two years ago, and was always intended to be improved as time went on, and as experience should direct; it is gradually becoming more useful and efficient, and is capable, of course, of further improvement. Its institution was a great point gained, and those who originally set it on foot, have good reason to be satisfied with their work, and the sincere thanks of the profession are due to them. One change of importance it is much to be hoped will soon be made—namely, the removal of the practical examination from the College of Surgeons to the Dental Hospital of London. It is difficult to imagine any valid reason against this, for it is impossible to transfer all the materials necessary for such a test from the hospital to another building. Students work in a strange place and under altered circumstances, without the appliances to which they are accustomed, under unfavourable conditions; the fact of its being an

examination on the passing of which their future success in life greatly depends, is of itself enough to make them nervous and diffident, and if this ordeal is to be gone through in a place which they are not used to, and where they cannot of course have the surroundings they generally work with, it does not diminish, but adds to the anxiety; it is distracting and disquieting, where it is most desirable distraction and disquietude should be avoided, for it is the object of all examinations to help the candidate as far as possible to feel at ease, and so to find out what he really knows, and I submit that this end will be more easily reached for the reasons I have given by making the hospital the place where their work is practically tested. The present system also involves some expense to the College in the removal of chairs, &c., which need not be incurred.

With regard to the "*vivâ voce*," every student is naturally anxious to know the *exact* range over which he is likely to be taken, and the uncertainty which formerly existed on this point has been removed by an official notice issued by the College, stating exactly the limits they intend to observe in questioning the candidates. This authoritative document is, of course, most valuable, as it forms a certain guide for students in reading up and preparing for this all-important Examination, as they now know that they will not be examined on any point not stated there. It is, of course, really necessary that each candidate shall know the names of the bones—the names and general relations of the large arterial and nervous trunks which supply blood and govern motion throughout the body; and that each man shall have a general notion of the relative relations of the thoracic and abdominal viscera. Beyond this it seems the Examiners do not think they need go, and in this those most interested in the matter are quite with them. At present we ought to rest well satisfied with the *vivâ voce* examination; it is fair, thoroughly stringent and searching, and ensures that no man ignorant or inefficient shall receive the College license. This is a state of things

which a few years ago seemed impracticable, now the uneducated being excluded by the preliminary examination in Arts, all must have, before they can *commence* their professional training, a fair education generally.

For in these days of School Boards it would be indeed disgraceful if men who are to practice the whole or any part of the science of Surgery, should be less educated *for their station* than the children of the so-called "working classes" around them, and this does not mean a *low* standard of education.

As years roll on, and we learn by degrees how best to perfect and shape our Curriculum to our needs as they arise from time to time, it seems to me that events are pointing clearly to the advisability of separating the Anatomical and Physiological from the Surgical and Pathological Examinations, as was done many years ago for the Membership, and as is now done at Edinburgh for the Licentiate'ship in Dental Surgery. If the Anatomical and Physiological Examinations were held at the end of the first year, and the Surgical and Pathological at the end of the second year, a higher state of knowledge would be reached, the Student very much aided in his work, method would be introduced in study where it is wanted, and work divided, and so more easily grappled with. It would be a real relief to be rid of Anatomy and Physiology after the first year, and to have the remainder of the time free for Surgery, Pathology, and Therapeutics, and would lessen very considerably the mental strain at present existing; the actual time need not be shortened for the subjects at each table, and no extra trouble would be given to the examiners, as each separate section would only attend for its particular subject. The change would clearly be a great gain to the students, and as it need not add much to the work of the examiners, I hope it may commend itself in time to the Council of the College of Surgeons. In the limited space at my command I have been unable to do more than support the alterations I suggest very briefly; much more could be said did time



and space permit, but I trust they may be thought worthy of consideration, and that they may, if approved of, be ultimately acted upon, more particularly as they do not involve upsetting what already exists, and creating a revolution which most men very wisely hesitate to put their hand to, except from stern necessity.

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### Dental Education.

*An Introductory Lecture delivered at the Edinburgh Dental School,  
Session 1880-1.*

By W. BOWMAN MACLEOD, L.D.S.ED.

*(Continued from page 582.)*

I NEED hardly state that our profession has made great progress during late years in all its departments; but although this has been the case, it is a matter of congratulation that the restless invention-spirit is still dissatisfied, and looks forward to a still nearer approach to perfection. To this end may it not be expected that this School, nay, the students of this class, may in some degree minister? We are here in a very different position, and are very unlike those of our older brethren, who were in the habit of groping along, each in his own way, laboriously working out each item of knowledge, and learning, by dear-bought experience, the principles of their art. On the contrary, we are here, met together to drink at the fountain of knowledge, which has been fed by many tributaries, and which will, as time rolls on, be added to by those who now come to quaff, and quench their thirst at its invigorating and life-giving waters.

But this cannot be done if you who drink immediately depart, saying, "My thirst is assuaged, I am contented," but only by your acknowledging the benefits you have derived from partaking at this fountain of knowledge, which has been brought within your reach, and by your remembering that as those who have gone before contributed to the stores by which you have profited, you also, in return, should pay the debt laid upon you, and do what you can to contribute to the common fund, as your talents shall enable you, so that those who follow may find the fountain more mellow and invigorating, and the measures for their partaking more full and free. In order the more easily to lead to this result, you must not be content to accept of things as they are given to you,

or accept as accurate the information imparted. I would have you investigate for yourselves as to the truth of what you are taught. Nor must you be content—that is, placidly content—with the ways of your fathers, simply because they served the purpose required of them, being the best means they had at command. Those who wish now to get in the van of the profession must take advantage of all suggestions, indeed of all good things which increased knowledge and skill may project or devise; they must be careful not to look upon innovation as an intrusion or impertinent, but rather to consider every suggestion advanced as one to be weighed in the balance of trial, and, if approved, to be acted upon and upheld, till it be superseded by a better and more efficient method. There have lived, even within the short period of my own professional existence, men whose faith was firmly pinned to bone, or to bone and human teeth, as being the only possible material, or materials, from which comfortable, useful, and beautiful substitutes could be constructed, and who looked upon plate (gold plate, that is to say) as a material which was utterly unfit as a base for artificial dentures. Since then, we find that not only has gold obtained for itself a firm footing and proved its own worth, but its supremacy has been from time to time assailed by other materials, and in these days has found a successful rival in vulcanite, which, in its turn, stands somewhat in jeopardy, by the newer base, celluloid.

I trust that in these introductory observations I have said sufficient to strengthen you in your resolve to study well and to study hard, and to intensify within you that never-to-be-satiated craving for more knowledge, more light—Light which is granted only to those who work patiently, ploddingly, methodically, and modestly; light which ever woos upward and onward, which illumines the dark and uneven pathway of the student, confers a brightness on the matured conceptions of the worker, and sheds a radiant halo around the closing acts of an industrious and well-spent life.

From the general to the particular; from the precept to the practice. Let us spend the few minutes still at our disposal in endeavouring to get a definite and comprehensive idea of what is included in the term, Mechanical Dentistry, or Dental Prosthetics, to make use of a term which has of late been introduced on the other side of the Atlantic, and which I am inclined to think will speedily be recognised and adopted in the literature and institu-

tions of this country, as it is more comprehensive in its significance, and therefore better expresses the present advanced standard of excellence demanded in this particular branch of Dental Surgery.

Dental Prosthetics is the art of correcting or supplying substitutes for congenital or accidental defects within the oral cavity. This may be divided into three sections:—

- (1.) The correcting of irregularities of the teeth arising from natural causes; or injuries of the jaws.
- (2.) The making good congenital defects (such as cleft palate) by mechanical appliances.
- (3.) The substituting of loss by accident or natural decay of the teeth or other hard portions of the mouth.

We shall first consider the 3rd section, as it is the one most frequently calling for the display of our skill, and which, when we thoroughly understand, will better enable us the more easily to comprehend the 1st and 2nd. Now, as the province of any substitute is to take the place, and fulfil, or as nearly as possible fulfil, the functions of the natural part for which it is substituted, and as we are considering the 3rd section of our subject, it will be necessary for us to enquire, first what are the functions of the teeth, and having discovered these, proceed a step further, and ascertain what principles must guide us in constructing a substitute so as to subserve natural purposes.

The functions of the teeth may be divided into three—there used to be a fourth, viz., Prehension, but, since the advent of the knife and fork, and the more peaceful nature of the pursuits of men, consequent upon the advance of civilisation, this function has become gradually more and more atrophied, until all that now remains of it may, so far as we are concerned, be conveniently considered under the third of the heads into which I propose to divide the functions of the teeth. The functions of the teeth, then, are Expression, Articulation, and Mastication; the first *Æsthetic*, the second and third *Utilitarian*. The utilitarian should never be sacrificed to the *æsthetic*, but, where these can be combined, we do an injury to ourselves and sin against our profession, if we neglect to cultivate the beautiful. Thanks to the restless spirits whose desire is to excel, and who have furnished us with improved appliances and methods, we can now provide with remarkable precision for the useful; and I am glad to see that an *æsthetic* wave is at present sweeping over the profession which

must awaken an increased desire to perfect the Art aspect of dentistry—an aspect which of late has been too much neglected. But I must not say more at present on this enticing theme, as you are not yet ready for its reception, and we will do so in its proper place. When we are dealing with “Bites” and how to take them, we will have ample opportunity of fully considering the relative importance of the æsthetic and the utilitarian. It is our object now simply to make an opening for our future work, and to set down one or two fixed points which will govern us in our study of dental mechanics.

So far as we have gone we have got a concise definition of what we understand by dental mechanics, and, for convenience sake, have divided this into three sections, the third of which we have taken up, and have ascertained the functions which under that section our work has to perform—and here we have reached a stage where the purely mechanical is gradually blended with, and becomes dominated by, the surgical—for not only must we understand the functions, but we must have knowledge of where and how our work has to be applied before it can perform these functions, and this necessarily presupposes and demands an anatomical and physiological knowledge of the oral cavity. The mechanic may, by rule of thumb, construct a denture which in hand presents the perfection of mere workmanship, but which when applied to the mouth, will utterly fail to discharge the duties required of it. It is the province of the dental surgeon or trained dentist to design the structure, and ere he can do this, he must not only know the functions to be served, but must know and thoroughly understand the condition of the base upon which he builds—the nature of the environments which influence for good, or interfere for evil with the stability and functional usefulness of the completed design. You have already, under the able teaching of my esteemed colleague, Mr. Wilson, had described to you the minute as well as the general anatomy of the mouth and contiguous structures. But it will be here necessary, for the proper understanding of our subject, that we should traverse a small portion of the same ground he treated of, and briefly describe it, but in less technical language.

I shall then speak, first, of the nature of the base upon which our work is to be built; and, second, of the relation of the surroundings of the whole.

The oral cavity, then, may be considered, in its relation to



mechanical dentistry, to consist simply of two basilar processes—the upper, or sustaining one, and the under, or supporting one; the first the fixed base, the second the moveable one, working upon the upper within certain circumscribed limits. The upper, or sustaining base, is generally described, or may now be generally described, as an oval or horse shoe ridge, united on the inner border by a continuous plate, called the palate, which is more or less arched, or of a dome-like shape. The under jaw, or supporting base, is a ridge pure and simple, having no connecting plate, but having the space between its inner borders floored by the mylo-hoid muscle. These ridges are overlaid with a covering, varying in thickness, of dense and vascular mucous membrane, which is continuous with, and reflected upon, the cheek, lips, and floor of the mouth. The ridges are situated within the chambers of the oral cavity, and are bound laterally by muscular walls, the Buccinators; anteriorly by a muscular curtain, the Orbicularis Oris, which is divided horizontally; posteriorly by a sensitive muscular veil, the Soft Palate, and Pillars of the Fauces; inferiorly and centrically by the Mylo-hoid and muscles of the tongue; and, besides these, the muscles of mastication; and over and above, we must not lose sight of the fact that the oral cavity is constantly charged with secretions, the chemical action of which must be taken into account. We have then these two bases—the upper, oval and fixed; the under, elliptical and moveable; which, in the normal state, are armed with teeth, firmly set in a bony socket, and which teeth antagonise with each other, and discharge the functions which I have indicated. As dentists, then, we are called upon, when these natural appendages become extinct, to supply their place with substitutes which will fulfil the same functions—the functions of the natural organs. But we are placed at this disadvantage—we have no deep socket or fixed retaining point in which to insert that which is to replace the natural organs. Therefore, as solidity is one of the most important attributes of the teeth, we must look around for some other means of obtaining this solidity—without which, artificial teeth are worse than useless. This end can be obtained by different methods—by pivoting, by clasps, by suction, by atmospheric pressure, by springs, &c.—each of which may be made equally reliable; but the choice of these depends upon the condition in which we find the base when our patient comes to us for an exhibition of the value of our art.

But in addition to solidity or stability, it is necessary that our

substitutes should be capable of resisting the chemical action of the secretions of the mouth; that they should be sufficiently strong to withstand the strain, pressure, and concussion incident to use; that they should closely imitate healthy and normal teeth in size and shape, colour and translucency; that the base or setting should possess strength and chemical resistance, and be in itself non-irritant, and that the disposition and configuration of both tooth and base should be such that, while completely fulfilling the objects of restoration, they will not interfere with the natural actions of contiguous parts.

And here, I think, we may fitly draw our Introductory to a close. We have defined the scope of our studies, and have taken up a section for consideration, have displayed the functions to be served by artificial substitutes, and roughly described the area where these services have to be performed, and, finally, enumerated the attributes required of artificial dentures. We have thus laid down fixed points, from which we may, for some nights to come, make systematic, and, I hope, profitable excursions in search of the principles which govern Dental Prosthetics, some of which I have already foreshadowed, in enumerating the attributes, varieties, and requirements of Dental Substitutes.

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### Royal College of Surgeons.—Preliminary Examinations.

THE *Medical Times and Gazette* for January 15th contains an article commenting upon the large number of rejections of candidates at the recent Primary Examination for the Membership of the Royal College of Surgeons, from which we select a few passages of criticism, which are not wholly without force:—

“In this last examination it is notorious that no one question in anatomy was such as to bring out what is most important of all—a broad knowledge of the subject. One was such that, except a specimen of the bone had been placed before the student with the lines marked, as given in the question, its answer could only be taken as a test of memory; which, by the way, oddly enough, does not imply a knowledge of anatomy.

“Turning next to the physiological paper, we have to remark that to answer it aright would take almost as many days as hours are granted for the written examinations at the College. Moreover in some parts it is so delightfully vague as to leave almost anything to be filled up according to the imagination of the student

or of the examiner, as the case might be ; but as the trump card is always in the hands of the examiner, he would probably have the best of it."

"Take the following questions, or portions of questions :—  
'3. What is glycogen? Where is it formed in the human body? From what materials is it formed?' Probably the answer desired by the gentleman who set the questions was that glycogen was formed in the liver—if so, the question is puerile ; but if it was also desired that the student should mention such sources of glycogen as have been acknowledged as possible by Lauder Brunton, let us say, the question is beyond the range of ordinary physiological teaching. As to the materials from which glycogen is formed, if we are to take any hint from the only practical source of instruction, *i.e.*, in diabetes, it may be produced apparently from all of the three chief forms of food.

"6. 'How is absorption effected in the small intestine? State what share is respectively taken in the act of absorption by the lymphatics and bloodvessels.' If the examiner means by the former part of the question, what apparatus is concerned in absorption, the latter part answers the former. If he means the nature and kind of the forces employed, the answer is equally simple—we do not know ; and he would be a bold man who would assign to either lymphatics or bloodvessels any specific duty which the other may not share."

To turn to the *vivâ voce* :—

"It must be borne in mind that the time assigned to each pupil is limited, and that anything which is likely to occupy more than a reasonable portion of this time is utterly unfair. Fancy, then, the feelings of the unfortunate student when he has a lump of tissue put into his hands, and is asked straight away to make a microscopical section from it!

"Then the cardiograph, which has been playing a prominent part in the recent examination—to fairly adjust and set the machine running would take up at least half the time allowed for another table. Thus we may say that if a student is required to mount specimens at one table, and to adjust a cardiograph at a second, there will not be much time to ascertain the amount of his knowledge of physiology, properly so called. One examiner amused himself by examining students on a fluid supposed to contain sugar. Normally, such fluids are not plentiful in the human body ; but perhaps pathology is to be superadded to the

miseries of the primary. Let that pass. But the examiner was not exactly content with the ordinary test nowadays (that of Fehling); he wanted something simpler (that of Moore). One candidate attempted Trommer, but he forgot to heat. No hint was given to him—he was plucked—we cannot say on this alone; but a good examiner would have helped a lame dog over the stile. No one without experience can tell what the effect is on a man thus knocked down at the first blow. He loses his head completely, answers at random, and most likely talks nonsense.”

If the account of an individual's *vivâ voce*, as given by the *Medical Times and Gazette*, which for want of space we have omitted, is correct, it is quite clear that the examiners have something to learn in their art. It is not given to every one, nor indeed to any considerable number of people to be good examiners any more than to be good teachers, while it is well known that the most profound knowledge of a subject does not necessarily bestow the power of imparting it.

Only let us be sure of one thing: that the difficulties of the examiners do not in any measure arise from the imperfect instruction bestowed upon the candidates: for those who have tried will very well know how hard it is to set good questions to a class whose standard of knowledge and of general education is far below the requirements of the case.

But there is clearly something wrong either in the teaching or in the examining, when the proportion of rejections is so high as it was at the last Primary Examination.

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### Appointment.

LEONARD MATHESON, L.D.S.Eng., has been appointed Honorary Dental Surgeon to the Manchester Certified Industrial Schools.

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### National Dental Hospital.

THE Committee of Management has incurred heavy expense by improving the accommodation for reception of patients, and adding sixteen additional operating chairs. A Concert will be given in aid of the funds in May. An earnest and urgent appeal is made to all friends interested in Dental relief and education.

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THE following Financial Statement and List of Members of the British Dental Association has been received from the Representative Board for publication.



# THE BRITISH DENTAL ASSOCIATION.

*Receipts and Expenditure Account, from July 1st, 1879, to December, 31st, 1880.*

Dr. Cr.

	£	s.	d.		£	s.	d.
To Law Expenses	65	4	6	By Subscriptions and Donations collected during 1879 and 1880 per list	£485	15	6
" Printing Copies of Memorandum of Association, Bye Laws, Lists of Members, Circulars, &c.	53	8	9	Less Moiety transferred to the Review account	242	17	9
" Printing, Stationery, &c.	9	14	4				
" Salaries (Assistance to Hon. Secretary)	7	10	6	" Subscriptions outstanding, moiety of which to be transferred to the Review account when received	16	16	0
" Travelling Expenses, Postages, &c.	31	12	9	" Amounts received of which no particulars have been kept	0	11	7
" Sundries, Commission charged by Bankers for the collection of country cheques	0	5	0				
" Balance	92	9	6				
	£260	5	4		£260	5	4

# THE MONTHLY REVIEW OF DENTAL SURGERY.

*Profit and Loss Account for the year ending 31st December, 1880.*

Dr. Cr.

	£	s.	d.		£	s.	d.
To Purchase of Review on January 1st of Mr. George Butcher	200	0	0	By Moiety of Subscriptions credited to this account	242	17	9
" Cost of Printing	274	19	3	" Smith Elder & Co., copies of Review sold by them	33	12	8
" " Binding	7	1	0	" G. Butcher for advertisements	238	4	8
" " Engraving Plates	3	5	0	" Stock on hand, per Smith Elder's valuation	14	12	10
" " Addressing and Postage	24	6	0	" Balance—Loss	54	5	7
" Reid & Co. reporting minutes of Meetings	13	13	0				
" Salaries of Sub-Editor and payments for Articles contributed	57	0	10				
" Newspapers for the Editor's information	3	8	5				
	£583	13	6		£583	13	6

# THE BRITISH DENTAL ASSOCIATION.

Balance Sheet, 31st December, 1880.

Gr.

Dr.

	£	s.	d.		£	s.	d.
To Reform Fund, Balance (received from Hon. Secretary) ... ..	...	...	...	By the <i>Monthly Review</i> , Balance of the Profit and Loss account as above ... ..	54	5	7
" British Dental Association, balance of Receipts and Expenditure account as above ... ..	...	...	...	" Unpaid Subscriptions ... ..	16	16	0
" Debts due by the Association ... ..	...	...	...	" Amounts due to the Association ... ..	172	7	2
				" Stock on hand—copies of <i>Review</i> in the hands of Smith, Elder & Co. ... ..	14	12	10
				" Cash, Bank of England ... ..	33	14	8
					£291	16	3

I have examined the vouchers and hereby state that the above is a true and correct statement of the accounts of the Association.

N. TAPP, Auditor.  
(TAPP & BIRD, Public Accountants.)

5th February, 1881.  
4, Great George Street, Westminster.

## List of Members of the British Dental Association.

- Ackery, J., 24, Queen Anne Street, Cavendish Square, W.  
Agnew, J., 47, Bath Street, Glasgow.  
Albert, John G., Rutland House, 427, Brixton Road, S.W.  
Alexander, A. B., 27, Gordon Street, Gordon Square, W.C.  
Anderson, A. E., Maidstone, Kent.  
Apperly, E., Rowcroft, Stroud.  
Arnott, J., 24, Old Burlington Street, W.  
Ash, E. T., 106, Park Road West, Brighton.  
Ashworth, H., Molyneaux Road, near Radcliffe Bridge, Manchester.
- Bacon, J. W., Tunbridge Wells.  
Balcomb, T., 56, Pembroke Terrace, St. Heliers, Jersey.  
Balding, E., 5, Oxford Terrace, Upper Holloway Road, N.  
Balkwill, F. H., 3, Princes Square, Plymouth.  
Ball, Edwin, 3, The Quadrant, Buxton, Derbyshire.  
Barrett, Ashley, 42, Finsbury Square, E.C.  
Barrett, H. J., 42, Finsbury Square, E.C.  
Bartlett, W. P., 41, Gloucester Place, Hyde Park, W.  
Bate, C. S., 8, Mulgrave Place, Plymouth.  
Bateman, G. W., 99, Ladbroke Grove, W.  
Baly, C., 140, Harley Street, Cavendish Square.  
Beavis, G., Stow Hill, Newport, Monmouthshire.  
Bell, M. L., St. Margaret Street, Canterbury.  
Bell, R. J., St. Margaret Street, Canterbury.  
Belsey, R., 96, Buckingham Palace Road.  
Bennett, W. Storer, 17, George Street, Hanover Square, W.  
Bennett, F. J., 17, George Street, Hanover Square, W.  
Betts, E. G., 4, Yerbury Road, Tufnell Park, N.  
Bever, H. A., 46, Broad Street, Oxford.  
Birt, S., 33, Warwick Street, Leamington.  
Black, G., 3, St. John's Terrace, Cork.  
Boulton, R. B., Ashton House, Cardiff.  
Bradshaw, R., 41, Great Marlboro' Street.  
Brand, E. E., Mansion House, Cathedral Yard, Exeter.  
Bridges, T. B., 5, Belle Vue Terrace, Whitby, Yorks.  
Bromley, C. H., 1, Portland Terrace, Southampton.  
Brooks, R. H., Banbury, Oxon.  
Browne, R., Tavistock, Devon.  
Browne-Mason, J. T., 6, Southernhay, Exeter.  
Browning, 27, Upper Montagu Street, Montagu Square.  
Brownlie, J. R., 10, Brandon Place, Glasgow.  
Brunton, G., Hillary Mount, 169, Woodhouse Lane, Leeds.  
Bryan, W. T., 146, Islington, Liverpool.

Buchanan, G., 1, Montagu Place, Glasgow.  
 Buckley, T., 217, Manchester Road, Hollinwood.  
 Bulcock, J. H., 5, Church Street, Clitheroe, Lancashire.  
 Bull, G. R., St. Mary's Grove, Stafford.  
 Bullin, F., Whitefriars, Chester.

Campbell, W., 27, South Tay Street, Dundee.  
 Campion, H., 164, Oxford Road, Manchester.  
 Canton, F., 17, Great Marlboro' Street, W.  
 Canton, Arthur, 34, Baker Street, Portman Square, W.  
 Carmichael, J. W., 4, Hartington Street, Barrow-in-Furness.  
 Carter, F. S., 26, Park Square, Leeds.  
 Carter, J. H., 26, Park Square, Leeds.  
 Cave, J. S., 30, High Street, Gosport, Hampshire.  
 Cave, F. C. B., 24, Bennett's Hill, Birmingham.  
 Cheney, W. J., 95, Great Ducie Street, Strangeways, Manchester.  
 Clarke, F. M., 9, The Green, Richmond, Surrey.  
 Clements, T., 2, Colville Road, Bayswater, W.  
 Cockburn, W. F., Clarence Street, Gloucester.  
 Coleman, A., Holly Lodge, Streatham.  
 Coles, J. Oakley, 18, Wimpole Street, W.  
 Collins, J. J., 17, Thomas Street, Woolwich.  
 Connacher, D. J., 207, Hampstead Road, N.W.  
 Cooksey, E. T. W., Melbourne House, Worthing.  
 Cormack, A. C., 1, George Square, Edinburgh.  
 Cormack, D., 77, Margaret Street, W.  
 Cormack, E., 1, George Square, Edinburgh.  
 Councell, E. A., 49, Rodney Street, Liverpool.  
 Couper, E., Grange Row, Darlington.  
 Cox, E., New Zealand.  
 Crabtree, E., 6, Dutton Street, Accrington.  
 Crapper, J. S., The White House, Hanley, Staffordshire.  
 Crombie, P., 8, Union Terrace, Aberdeen.  
 Cronin, A., 24, Holles Street, W.  
 Crowther, G. H., 1, Bond Street, St. John's, Wakefield.  
 Cumming, James, 44, Russell Street South, Melbourne, Australia.  
 Cunningham, C. M., 4, York Row, Wisbeach, Cambridge.  
 Cunningham, J. S., 41, Lauriston Place, Edinburgh.

Daish, W. G., Melville Hall, Ryde, Isle of Wight.  
 Daish, W. H., Melville Hall, Ryde, Isle of Wight.  
 Dalton, C. J., 1, Scotch Street, Whitehaven.  
 Dally, Fred, 40, Darlington Street, Wolverhampton.  
 Danks, J. A., 1, Rattray Road, Brixton.  
 Davis, M., 27, Maida Hill West, W.



De Lessert, A. A., 220, Union Street, Aberdeen.  
Dennant, J., 1, Sillwood Road, Brighton.  
Dilcock, S., 152, Islington, Liverpool.  
Donovan, F., 44, South Audley Street, Grosvenor Square, W.  
Dopson, D., 10, Oxford Street, Liverpool.  
Dowling, C. H., 15, Westland Row, Dublin.  
Drabble, R. C., 69, Wicker and 84, Broomspring lane, Sheffield.  
Dreschfeld, L., 363, Portland Terrace, Oxford Road, Manchester.  
Durward, J. S., 43, George Square, Edinburgh.  
Dykes, Thomas, 6, Church Crescent, Dumfries.  
Dykes, William, 84, Bury New Road, Manchester.

East, A. J., Tonsley Hill, Wandsworth, S.W.  
Edwards, Alfred Wells, 24, Rue Serviez, Pau, Basses Pyrenees, France.  
Evans, H., 24, Norton, Tenby.

Fisher, W. M., 10, South Tay Street, Dundee.  
Fitzgerald, John, 7, Orchard Street, W.  
Fletcher, D. J. G., 2, Wynyard Square, Sydney, New South Wales.  
Fletcher, J. B., 17, New Burlington Street, W.  
Foran, J. C., Marshfield House, Eastbourne.  
Ford, H. B., Port of Spain, Trinidad.  
Forster, J. G., Old Elvet Street, Durham.  
Forsyth, W. F., 28, George Street, Hanover Square, W.  
Fort, J. W., 7, New Road, Lancaster.  
Forty, J., 14, Upper Montagu Street, Montagu Square, W.  
Foster, J. A., 7, Wheeler Street, Birmingham.  
Fothergill, E., 5, Eldon Square, Newcastle-on-Tyne.  
Fothergill, Alex., Darlington.  
Fothergill, J. A., Northgate, Darlington.  
Fothergill, W., 77, Northgate, Darlington.  
Fox, S. B., 7, Southernhay, Exeter.  
Fox, W. H., Clarence Street, Gloucester.  
Frost, G., 56, Brunswick Terrace, Broad Street, Pendleton, near Manchester.

Gabell, A., Biewley House, Redhill, Surrey.  
Gaddes, T., 46, Seymour Street, Portman Square, W.  
Galloway, J., 93, Cross Lane, Great Horton, Bradford, Yorks.  
Gamble, J. G., Stratford-on-Avon.  
Garland, T. G. F., 2, Stafford Villas, Heavitree, Exeter.  
Gartley, J. A., 5, Sackville Street, W.  
Geekie, W., 140, High Street, Oxford.  
Gibbings, A., 18, Stratford Place, W.  
Gibbons, S. C., 61, Old Steine, Brighton.

Gillies, D., Shipquay Street, Londonderry.  
 Goddard, W., 10, Oxford Street, Nottingham.  
 Gopel, J. R., 74, Mount Pleasant, Liverpool.  
 Goy, J. D., St. Marks Terrace, Lincoln.  
 Grayson, F. C., 70, Highgate, Kendal.  
 Grayson, A. E., 70, Highgate, Kendal.  
 Greenfield, J., 11, Brook Street, Hanover Square, W.  
 Gregory, E. J., Beechwood House, Montpelier, Cheltenham.  
 Gregson, G., 63, Harley Street, W.  
 Griffiths, H. W. M., 6, Bridge Street, Newport, Monmouthshire.

Halliday, M. W., 4, Nottingham Street, W.  
 Halliday, H., 62, Gloucester Road, Regent's Park, N.W.  
 Hammond, G., 43, Leinster Square, Kensington Gardens, W.  
 Hardie, W. J., 8, Panmure Terrace, Montrose.  
 Harding, B. L., 120, Oxford Street, Manchester.  
 Harding, W. E., 28, Castle Street, Shrewsbury.  
 Harding, T. H. G., 19, Park Square East, N.W.  
 Harding, G. H., 4, Finsbury Square, E.C.  
 Harrison, R., 213, Camden Road, N.  
 Hatfield, J. H., 25, Old Burlington Street, W.  
 Hayward, W. H., The Parade, Trowbridge, Wiltshire.  
 Hedgeland, J. H., 38, Southernhay, Exeter.  
 Hele, W., 11, Portland Square, Carlisle.  
 Helfrich, R., 25, Notting Hill Terrace, W.  
 Helyar, H., 3, Victoria Place, Haverfordwest.  
 Henry, W. F., 79, King William Street, E.C.  
 Henry, M., 25, Cheriton Place, Folkestone.  
 Henry, G., 38, Wellington Square, Hastings.  
 Hepburn, D. S., 10, Oxford Street, Nottingham.  
 Hepburn, D., 9, Portland Place, W.  
 Hepburn, D., 7, Abercromby Place, Edinburgh.  
 Hepburn, R., 9, Portland Place, W.  
 Hill, A., 23, Henrietta Street, Cavendish Square, W.  
 Hinchliff, W. O., 90, Kennington Park Road, S.E.  
 Hinds, J., 127, Gosford Street, Coventry.  
 Hockley, A. G., 45, Great Marlborough Street, W.  
 Holland, J., 201, Sloane Street, S.W.  
 Holmes, W., 9, Abbey Street, Derby.  
 Hoole, Stephen, 16, Old Burlington Street.  
 Hopkinson, R., 32, Broughton Road, Salford, Manchester.  
 Horton, J., 116, Great Ducie Street, Manchester.  
 Huet, F. A., 120, Oxford Street, Manchester.  
 Hugo, S. G., 15, Alley Street, Guernsey.  
 Humble, J. M., Marsh House, Rothwell, near Leeds.

Hunt, W., Pen Villa, Yeovil.

Hutchinson, S. J., 44, Brook Street, Grosvenor Square, W.

Huxley, F. E., 24, Bennett's Hill, Birmingham.

Ibbetson, G. A., 19, Hanover Square, W.

Imrie, W., 42, Rue Cambon, Paris.

Inder, G. J., 57, Queen's Row, Camberwell Gate, S.E.

Jackson, B. S., Mostyn Hall, Friar Street, Penrith.

Jackson, T. S., 35, Havelock Road, Hastings.

Jepson, A., 33, Warwick Street, Leamington.

Johnson, M., Whitefriars, Chester.

Jones, J. A., Barrack House, Hanley.

Jones, W. H. H., 62, Gloucester Street, Warwick Square, Pimlico, S.W.

Karran, J., 8, Finch Road, Douglas, Isle of Man.

Keatinge, E. W., Cynval Villas, Rhyl, North Wales.

Keeling, G. R., Ormond House, Epsom.

Keeling, G. R., Junior, Ormond House, Epsom.

Kelly, W., 94, Oxford Street, Manchester.

Kelly, T. M., 94, Oxford Street, Manchester.

Kempton, H. T. K., 17, Cavendish Place, W.

Key, W. H., 5, High Street, Southampton.

King, R., 38, High Street, Shrewsbury.

King, T. E., Coney Street, York.

King, C., 156, Goldhawk Road, Shepherd's Bush.

Knott, E. H., 49, Old Steine, Brighton.

Kyan, J. H., 80, Fishergate, Preston.

Ladmore, E. J., 14, Whitefriars, Chester.

Levason, A. G., 12, Bridge Street, Hereford.

Lindsey, J. B., 1, Maison Dieu Road, Dover.

Littleboy, A. L., 70, Giles Street, Norwich.

Lloyd, J. W., 32, Mount Pleasant, Liverpool.

Longford, J. H., 13, Westmoreland Street, Dublin.

Longhurst, S., 28, Old Burlington Street, W.

Longhurst, H. B., 28, Old Burlington Street, W.

Lord, S., 31, King Street, Blackburn.

Lucas, G. J., 162, Windmill Street, Gravesend.

Lyddon, G., 16, Forbury, Reading.

Macgregor, A., 44, South Audley Street, Grosvenor Square, W.

Macgregor, M., 20, Queen Street, Edinburgh.

Mackenzie, F. V., 215, Junction Road, Upper Holloway, N.

Macloed, W. B., 43, George Square, Edinburgh.

Magor, M., 24, Chapel Street, Penzance.

- Mahonie, T., 167, Devonshire Street, Sheffield.  
 Maitland, L., 4, Richmond Terrace, Earl's Court, S.W.  
 Mallan, G. P., 30, Monmouth Road, Westbourne Grove, W.  
 Mallet, G., The Old Rectory, Newbury.  
 Manton, J. N., South Parade, Wakefield.  
 Margetson, W., Roscoe-house, Leeds Road, Dewsbury.  
 Martin, Gavin, Cruxton, Ilkley, Yorkshire.  
 Martin, J. H., M.D., Cambridge House, Portsmouth.  
 Matheson, L., 264, Oxford Road, Manchester.  
 Matthew, C., 59, Queen Street, Edinburgh.  
 Matthews, A. M., 12, North Parade, Bradford.  
 Marsh, W., 3, St. John's Terrace, Colchester.  
 Mc Adam, G. C., King Street, Hereford.  
 McIntosh, J. D. W., 223, High Street, Shadwell, E.  
 Medwin, A. G., 34, Bruton Street, W.  
 Melrose, E., 4, Devon Street, Bolton, Lancashire.  
 Merryweather, D., M.D., 17, Howard Street, Sheffield.  
 Millington, H. T., Whitefriars, Chester.  
 Mummery, J. Howard, 10, Cavendish Place, W.  
 Moon, H., 26, Finsbury Square, E.C.  
 Morison, J. C., 341, Bath Street, Glasgow.  
 Mummery, J. R., 10, Cavendish Place, W.  
 Murphy, T., Moss House, Bolton.  
 Murphy, J. E., 2, St. James Street, Derby.  
 Musgrove, J. J., 1, St. Domingo Vale, Liverpool.  
  
 Newman, A., 5, Slater Street, Liverpool.  
 Newman, W. J., 75, Mount Pleasant, Liverpool.  
 Newton, J. P., 44, Rodney Street, Liverpool.  
 Nicol, W. H., 2, Clarendon Road, Leeds.  
 Nicol, J. M., 2, Clarendon Road, Leeds.  
 Nightingale, C. G., 38, Castle Street, Shrewsbury.  
 Northover, T. H., 12, Lower Grosvenor Place, Grosvenor Gardens,  
 S.W.  
  
 O'Donoghue, J., Monte Video.  
 O'Duffy, J., 5, Gardiner's Row, Dublin.  
 Offord, J. S., 21, St. Giles Street, Norwich.  
 O'Hara, W. J., 10, London Road, Leicester.  
 Ollivere, J. F., 10, Cook Street, Cork.  
 O'Mera, A., Simla, India.  
 Orphoot, P., M.D., 113, George Street, Edinburgh.  
 Ormrod, Oliver, 57, Oak Street, Crewe.  
 Owen, R., 15, Victoria Road, Wolverhampton.  
  
 Palmer, J. E., Priestgate, Peterborough.



Palmer, T. W. G., 1, Royal Crescent, Cheltenham.  
 Parkinson, J., 36, Sackville Street, W.  
 Parkinson, G. F., 3, Princes Buildings, Bath.  
 Parkinson, G. W., 36, Sackville Street, W.  
 Parson, W. M., 3, Great George Street, Park Street, Bristol.  
 Parson, T. C., Whiteladies Road, Clifton, Bristol.  
 Partridge, H. F., Sussex House, Sussex Place, South Kensington, S.W.  
 Payne, G. W., 34, Ebury Street, S.W.  
 Peacock, C. J., 2, West Park Terrace, Scarborough.  
 Pearman, G. B., 4, Park Place, Torquay.  
 Pedley, F. N., 242, Camden Road, N.  
 Pedley, G., 30, High Street, Borough, S.E.  
 Penfold, W., 30, York Street, W.  
 Petty, F., 10, Forbury, Reading.  
 Pillin, L. B., 14, Conduit Street, W.  
 Pitowsky, A., Boutport Street, Barnstaple.  
 Platt, L. T., Sterling, N.B.  
 Pratt, F. T., Marine Parade, Appledore, North Devon.  
 Pritchard, J. W., 24, Old Burlington Street, W.

Quinby, H. C., 21, Rodney Street, Liverpool.  
 Quinby, M., 21, Rodney Street, Liverpool.

Read, L., 18, Hanover Street, Hanover Square.  
 Read, H. B., 30, Finsbury Square, E.C.  
 Read, W., 12, Old Steine, Brighton.  
 Randell, E., 42, Finsbury Square, E.C.  
 Reboul, A. P., 60, Liverpool Road, N.  
 Reid, R., 19, Heriot Row, Edinburgh.  
 Richardson, F., 10, London Road, Derby.  
 Ridge, W. H., 18, Gaolgate, Stafford.  
 Renshaw, Isaac, 87, Drake Street, Rochdale.  
 Ritson, J. L., 40, Beckenham Road, Penge, S.E.  
 Ritson, J. J., 40, Beckenham Road, Penge, S.E.  
 Robbins, C., 32, Oxford Road, Kilburn, N.W.  
 Robertson, W. P., 124, Crown Street, Aberdeen.  
 Roberts, C. D., 26, Weymouth Street, Portland Place, W.  
 Roberts, T. A., 49, Charlwood Street, Belgrave Road.  
 Roberts, J. G., 27, Hope Street, Liverpool.  
 Robinson, F., 7, Montpelier Row, Blackheath, S.E.  
 Rogers, T. A., 23, Endsleigh Street, Tavistock Square, N.W.  
 Rogers, R., Alma House, Cheltenham.  
 Rogers, C., 2, Cork Street, W.  
 Rogers, C. C., 2, Cork Street, W.  
 Rogers, W. P., Medina Road, Cowes, Isle of Wight.

Rooke, J. H., 48, Kensington Gardens Square, Bayswater, W.  
 Rymer, S. L., Croydon, Surrey.

Saunders, E., 13A, George Street, Hanover Square, W.  
 Sewill, H., 6, Wimpole Street, W.  
 Sexton, T., 166, Stanhope Street, Hampstead Road, N.W.  
 Scales, H. F., 75, Highgate, Kendal.  
 Scott, J. W., 37, Edgware Road, W.  
 Sheffield, Isaac, 2, Stratford Place, W.  
 Shillinglaw, W., 33, Hamilton Terrace, Birkenhead.  
 Sime, G., Arcade Buildings, Dundee.  
 Sims, C., 51, Union Passage, Birmingham.  
 Skeet, W. H., New Plymouth, Taranak, New Zealand.  
 Smale, A. M., 89, Seymour Street, Hyde Park, W.  
 Small, D., 1, Peter Street, Dundee.  
 Smith, Alfred, 10, Park Place, Clifton.  
 Smith, A., 3, Devonshire Road, Holloway, N.  
 Smith, J., M.D., 11, Wemyss Place, Edinburgh.  
 Smith, J. A., 47, Smith Street, S.W.  
 Smith, F., Burlington Street, Chesterfield.  
 Smith, E. S., Lindum House, 27, Wide Bargate, Boston.  
 Smyth, S., 30, Wellington Place, Belfast.  
 Smyth, Alexander, 241, Buchanan Street, Glasgow.  
 Sinclair, C. S., 129, Hope Street, Glasgow.  
 Spencer, H. L., 16, Orchard Street, Portman Square, W.  
 Steele, J., Whitgift House, Croydon.  
 Stewart, C. T., Mount Pleasant, Liverpool:  
 Stewart, J., 8, Warrender Park Road, East, Edinburgh.  
 Stewart, R. E., 37, Rodney Street, Liverpool.  
 Street, G. H., 3, Hill Rise, Richmond, Surrey.  
 Stretton, J., 44, Broad Street, Worcester.  
 Stringfield, W., 30, London Street, Lowestoft.  
 Stirling, J., 32, Fort Street, Ayr, N.B.  
 Stocken, J., 21, Endsleigh Gardens, N.W.  
 Stokes, C., 192, London Road, Sheffield.  
 Surene, J. G., 19, Heriot Row, Edinburgh.  
 Sutcliffe, H. W., 30, Horton Square, Bradford.  
 Sutherland, G., 32, St. Nicholas Street, Aberdeen.  
 Swanson, A. J., 112, Cheapside, E.C.

Tanner, Thomas, 166, Oxford Road, Manchester.  
 Taylor, J. J., Motueka, New Zealand.  
 Thomson, W. S., 77, Denmark Hill, S.E.  
 Thompson, W. F., 41, Brook Street.  
 Thorman, F. J., 124, Western Road, Brighton.

Tindall, C., 18, Westgate Street, Ipswich.  
Tod, E. M., 9, Old Steine, Brighton.  
Tomes, J., Caterham, Surrey.  
Tomes, C. S., 37, Cavendish Square, W.  
Toon, James, Colmore Row, Birmingham.  
Torpey, G., 120, Gower Street, W.  
Tracey, H. W., 8, Whiting Street, Bury-St.-Edmunds.  
Turnbull, R. A., 12, Clayton Park Square, Newcastle-on-Tyne  
Turner, J. S., 12, George Street, Hanover Square, W.

Underwood, T., 11, Bedford Square, W.C.  
Underwood, T. F. K., 11, Bedford Square, W.C.  
Underwood, A. S., 11, Bedford Square, W.C.

Van, E., 41, St. Saviour's Road, St. Heliers, Jersey.  
Vanderpant, F. J., Clifton Lodge, Kingston-on-Thames.  
Vasey, C., 5, Cavendish Place, W.  
Verrier, A. B., Park House, Lennox Street, Weymouth.  
Vice, W. A., 3, Belvoir Street, Leicester.  
Visick, A. Baxter, 41, Brook Street.

Waite, W. H., 10, Oxford Street, Liverpool.  
Walker, Dr. J., 22, Grosvenor Street, W.  
Walker, J., 92, High Street, Paisley.  
Wallis, C. J., 11, Montpelier Row, Blackheath.  
Watson, G. W., 4, Stafford Street, Edinburgh.  
Watson, C., 13, Chepstow Place, Bayswater.  
Watson, W. J., Queen's Corner, Birmingham.  
Weaver, G., 41, Upper Baker Street, W.  
Weiss, F., 7, Montagu Place, Russell Square.  
Welch, J. E., 44, Norfolk Square, Brighton.  
Wells, A., Sansome Walk, Worcester.  
Wells, J., Quay Walls, Berwick-on-Tweed.  
West, C., Artillery Chambers, Finsbury Square, E.C.  
Westlake, B., 58, Peascod Street, Windsor.  
Whatford, J. H., 6, Seaside Road, Eastbourne.  
White, H., 15, Silver Street, Lincoln.  
White, R., St. Giles Street, Norwich.  
White, R. W., St. Giles Street, Norwich.  
Whittell, J. H., Roxbury House, Torquay.  
Whittingham, A. W., Havelock Place, Hanley, Staffs.  
Whittington, Richard, 4, Central Beach, Blackpool.  
Whyte, J. C., 34, Dundas Street, Glasgow.  
Wilkins, T. B., 3, St. Giles Square, Northampton.  
Williams, W., 63, Myddelton Square, Clerkenwell.  
Williams, E. H., 428, Stockport Road, Manchester.

Williams, G., 17, Cavendish Place, W.  
 Williamson, W., 15, Union Terrace, Aberdeen.  
 Willis, W. F., 17, Great Marlborough Street, W.  
 Willis, W., 6, North Parade, Halifax.  
 Wilson, A., 21, Young Street, Edinburgh.  
 Wilson, G., 393, Strand, W.C.  
 Wilson, J. A., 72, High Street, Bangor, North Wales.  
 Woodburn, W. S., 3, Great Portland Street, Glasgow.  
 Wood, John, 12, Pavilion Buildings, Brighton.  
 Wood, W. R., Carlisle House, Brighton.  
 Wood, J., 7, Assembly Street, Dumfries.  
 Wood, R. W., junr., 124, Western Road, Brighton.  
 Woodhouse, A. J., 1, Hanover Square, W.  
 Woodhouse, W. H., 1, Hanover Square, W.  
 Woodhouse, R. A. H., 1, Hanover Square, W.  
 Woodruff, W. H., 17, New Burlington Steeet, W.  
 Wormald, S., 20, Wellington Road South, Stockport.  
 Wormald, D. A., Hazlehurst, Bury, Lancashire.  
 Wormald, T., 188, Union Street East, Oldham.

Young, G., 7, Park Street, Bristol.  
 Young, J. C., 42, Sankey Street, Warrington.  
 Youngman, F., 4, Park Place, Torquay.

### Odontological Society of Great Britain.

THE usual monthly meeting of this Society took place at the Dental Hospital, Leicester Square, on the 7th inst., Mr. Thos. Arnold Rogers, president, in the chair.

Mr. CHAS. MACNAMARA exhibited a patient from whom he had removed a sarcomatous tumour of the upper jaw, and read notes of the case. The patient, a married woman aged 51, was admitted into the Westminster Hospital on January 29th. She had generally enjoyed good health, and there was no history of hereditary disease in her family, but she had suffered severely from toothache, and almost all her teeth had been extracted. She had first noticed a swelling of the right upper jaw about 14 months before her admission, and from that time it had gradually increased in size. There had been little pain in the tumour, but during the last three months she had suffered severely from neuralgia affecting the right lower eyelid and side of the nose. On examination it was found that a firm solid



tumour occupied the maxillary process of the right superior maxillary bone ; it did not extend back to the soft palate nor project into the nasal or orbital fossa, and there was no enlargement of the neighbouring lymphatic glands.

On February 5th Mr. MACNAMARA removed the tumour by making an incision through the upper lip, along the right ala nasi and across the cheek to the malar bone. The alveolar process was then divided to the right of the symphysis with a Hey's saw together with the nasal process of the superior maxilla and the malar bone, completing the separation of the tumour with bone forceps. The wound was plugged with lint, and the edges of the incision brought together with silk sutures. The patient made a rapid recovery, and although the scar on the cheek was still very visible it was fast becoming obliterated, and she was even now less disfigured than she was before the operation.

Mr. MACNAMARA handed round a cast taken by Dr. Walker before the operation, and showed also some sections of the growth under the microscope. It proved to be an osteo-sarcoma ; that is to say, it was a perverted growth of the normal elements of the part. Tumours of this class occupied an intermediate position between simple, benign growths and the undoubtedly malignant varieties of arcinoma. If left alone they were apt after a time to soften, and portions might then be carried by means of the blood to the lungs or other internal organs, which would thus become infected. It was therefore important to remove them at an early stage, and specially necessary to do so if they were evidently increasing in size. In a certain number of cases, however, these tumours might remain stationary for years, and give but little inconvenience ; under these circumstances it was not necessary to interfere with them. In such cases the perverted action subsided in the affected tissues, the medullary cells resumed their normal functions, ossification of the morbid mass took place, and it was only necessary to leave well alone.

Mr. BUTLIN said there was one remarkable feature about this tumour which Mr. Macnamara had not referred to.

On examining the sections under the microscope a number of small rounded or oval bodies would be seen here and there; they were transparent and homogeneous, highly refractive and marked with fine parallel lines, concentrically arranged. These bodies, which were composed of calcareous matter, had only been noticed in three other cases, and these were all tumours of the *lower* jaw, and in all three cases the patients were young. This case was, therefore, exceptional both as regarded the age of the patient and the situation of the tumour.

Mr. COLEMAN remarked that the diagnosis of such a case as this at an early stage would rest between sarcoma and a dentigerous cyst. An important distinction was that the latter did not give rise to pain in the early stages. He instanced the case of a patient who came to the Dental Hospital complaining of some pain in the upper jaw on the left side. The jaws, which were fixed, were opened under chloroform, and it was found that the third molar was not erupted. To make room for this the second molar was extracted; then as the pain continued the unerupted third molar was removed, and as this did no good some roots were removed from the upper jaw. Still there was no improvement; on the contrary, the patient lost flesh, and at the end of three weeks a swelling appeared at the site of the extracted molars. The patient now went into St. Bartholomew's Hospital, and the swelling, which rapidly increased in size, proved to be a sarcoma. The presence or absence of pain might thus be a valuable aid to diagnosis in such cases.

Mr. CHAS. TOMES said he had seen the round bodies spoken of by Mr. Butlin on several occasions in tumours connected with the teeth, and was not aware of their great rarity. He had seen them in a case of great hypertrophy of the gums, and in an ordinary fibroid epulis. They appeared to him to be analogous to the round concretions called calco-spherites, which were formed wherever salts of lime were precipitated, in presence of organic matter.

The PRESIDENT said he understood that this was a "round-celled sarcoma," and this variety was generally considered to be of a more malignant type than the spindle-celled.

Mr. MACNAMARA said that in deciding the question of malignancy he would rather trust to the history of the case than to the microscope; malignancy depended on rapidity of growth and the position of the tumour: the former element was especially important. For instance, Mr. Coleman's case was malignant, no matter what its microscopic structure might have been.

Dr. WALKER exhibited models showing what might be done to remedy irregularity of the dental arch by three weeks careful supervision and treatment. The patient had previously been under his care for some months, but attended irregularly, and no good was done. At last he insisted that she should come and live near, and come to see him every morning; he fitted a vulcanite denture with circular bar external to the teeth, resting on the external alveolar ridge; the irregular teeth were attached by ligature force, used each morning; the ligatures were changed daily. An immediate improvement took place, and the case has since progressed most satisfactorily.

Mr. JAMES PARKINSON showed some forceps which he had devised for carrying amalgam to difficult cavities in back teeth. He found these instruments very useful, as there was much less risk of the amalgam getting wet, and a much more satisfactory filling could thus be made.

Mr. BETTS showed some temporary and permanent canines with abnormally bifurcated roots, similar to those exhibited by Mr. Coleman at the last meeting.

The PRESIDENT then called upon Mr. Charters White to read his paper on the Histology of the Gustatory Organs of the Tongue.

Mr. WHITE said he proposed that evening to lay before the Society some interesting details relative to those remarkable bodies known in histological anatomy as the gustatory, or taste-bulbs. He began with a sketch of the

minute anatomy of the papillæ of the tongue, and especially of the microscopic structure of the circumvallate papilla, it being in them that the taste-bulbs were chiefly found. The description was illustrated by means of diagrams. Having briefly described the microscopic characters of the surrounding tissues, he went on to explain in some detail the histology of the gustatory bulbs themselves. These bodies when isolated closely resembled a flower bud before it is expanded; and by breaking up this bud it could be resolved into its primary histological elements. It was composed of from fifteen to thirty long narrow cells of a granular texture, and containing a large nucleus. These cells stood closely compressed round the axis of the bud, the outermost being more concentrically curved than the rows more interior to them. The cells of the innermost layer were of a different character to the others, being more highly organised and specially differentiated. In all probability they might be regarded as continuous with the terminal fibres of the glosso-pharyngeus though their connection with the terminal filaments of this nerve had not yet been actually traced. If a cross section of a papilla were made, we may cut off the upper portion, or neck, of one of these bulbs, and upon looking into the upper part of the section we may perceive a small hole surrounded by epithelium, through which the pointed neck of the flask projected; this was called "the gustatory pore." On making very thin vertical sections of the papilla we can see that the innermost layers of the bulbs really pierce this gustatory pore, and protrude from its orifice a short and very fine hair-like process. A comparative examination of these organs in other animals, especially in the frog, furnishes us with such a constant recurrence of this histological element, that we are justified in considering that these hairs are important factors in the function of taste. In conclusion, Mr. White referred those who wished for further information on this interesting subject to an exhaustive paper, by Professor Engelmann, which would be found in Stricker's "Human and Comparative Histology."



The PRESIDENT asked whether it was supposed that these bodies were the sole means by which taste was conveyed, and whether any were found on the palate, or in connection with the lingual branch of the fifth nerve. It was known that an upper suction case would cause loss of taste; but why it should produce this effect had never been very clearly explained.

Mr. STOCKEN said he thought this was due to the irritation produced by the presence of a foreign body in the mouth: the sense of taste was re-acquired as soon as the tongue became accustomed to the surface with which it had been brought in contact.

Mr. F. H. WEISS remarked that few were aware how largely we depended on our sense of smell for the perception of flavours. It was a common experience that a cold was accompanied by loss of taste, and the same effect might be produced at any time by merely clamping the nose.

Mr. COLEMAN asked what was the diameter of the orifice of the flasks, and whether they were supposed to have any power of contraction or expansion.

Mr. HUTCHINSON asked which was the best way of preparing the sections so as to show the nerve fibres.

Mr. IBBETSON said he had seen a very simple experiment tried in Paris thirty years ago, which proved conclusively where the perception of taste was located. It consisted of painting over the palate with some sapid substance, such as bitter aloes, the tongue being held down. No taste could be perceived. The person was then told to swallow, and directly the back of the tongue came in contact with the palate, the nauseous flavour was recognised in an instant.

Mr. WHITE replied that there could be no doubt that the glosso-pharyngeal was the chief source of taste, and that this sense was seated chiefly at the base of the tongue, and very slightly, if at all, in the palate. The gustatory pore would be about  $\frac{1}{200}$  inch in diameter; he did not believe that the bulbs had any independent power of con-

traction and expansion, but they were very mobile, and would be easily influenced by the subjacent muscular tissue of the tongue. Osmic acid was the best re-agent to show nerve tissue; he intended to try staining with chloride of gold, but could not speak of it from experience.

The proceedings concluded with a vote of thanks to Messrs. White and Macnamara, and the other contributors of the evening.

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### Correspondence.

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We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."  
THE RECENT DECISION OF THE MEDICAL COUNCIL.

SIRS,—I cannot regard the recent decision of the Medical Council, with reference to the expurgation of the Dental Register, from the optimist point of view from which you seem to look upon it. I think this decision is most unfortunate, and certain not only to retard the progress of our profession, but what is perhaps of more importance, to inflict deep injury upon the public. The direct effect, in this regard, of the Dentists Act, has been to license an army of incompetent men to practice a profession requiring education and skill for its honest practice. Among the thousands thus legally entitled to style themselves Surgeon-Dentist or Dental Surgeon (as I observe many are already doing) will certainly be found a considerable proportion of unscrupulous adventurers who will stop at nothing in order to gain their end—the making of money. No doubt the education of the public will in time render quackery in all departments of practice less easy, but, unhappily, public education goes on slowly, and instead of one decade being required to work the desired advance in the status of Dental Surgery, it is doubtful if the amelioration which might have been achieved by more wisely considered legislation, will be accomplished within two generations. It is some consolation to know that the promoters of the Dentists Act cannot be blamed for the *fiasco* which has attended a part of their work. Indeed it seems more and more difficult to pass any Act of Parliament whatever, which shall not introduce as many evils as it is intended

to remedy. Witness, for example, a Bill passed a session or two ago, introduced as a Government measure, believed to be thoroughly well considered and matured, and which has turned out worse than a dead failure—I mean Sir R. Cross's Artisans' Dwellings Act.

I repeat that the adventurers, devoid of feeling for human suffering and absolutely without any of the instincts of gentlemen, who will be surely found in small if not larger numbers among the unqualified crowd, now legally authorised to practice as Dentists, will surely work deplorable mischief. They will wake up sooner or later to the knowledge that the public are to be "had" by falsehood and impudence, and I shall be very much astonished if we do not see a rapid increase in the number of mendacious advertisements in the press throughout the country. The lying and fraudulent sham Dental-Surgeon will be more and more confounded by the indiscriminating public, with the educated legitimate practitioner, and the status—social and professional—of our speciality must be lowered thereby. Then again, it is by no means so easy (as those who have succeeded in practice sometimes imagine) for a young beginner, who is obliged to wait in silence, to compete with the blatant quack, whose loud statements might be thought to bear the visible endorsement "falsehood" written across them; and we cannot know the extent of suffering a struggling practitioner, pressed by the *res angusta domi*, may endure from this flaw in the Dental Act. It is to be hoped (and I have no reason to doubt it will be so) that the British Dental Association have not said their last word on this subject. The question of independent legal action on the part of the Association to cause the expurgation of the Register seems an open one; and the recent leaders in the *British Medical Journal* and the *Medical Press and Circular* certainly countenance such a step. This would involve expense, but there can be no doubt the money would be forthcoming.

Should the Association not finally see its way to the expulsion of those who have been fraudulently smuggled into an honourable profession, it will only remain to watch the progress of Medical Legislation, and to endeavour to prevent all but qualified practitioners from employing the prefix or affix Surgeon. And it must be borne in mind that a good case has been made out for the enemies of the Dentists Act, to urge that none but legally qualified Medical Practitioners be allowed to adopt such a title;

and these gentlemen must also be watched lest by chance they succeed in their injurious design.

Your obedient servant,

M.R.C.S.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIRS,—At the recent sitting of the Medical Council for the transaction of Dental business, the forcible protest of Sir William Gull in testimony of the true position of Dental Surgery and the eloquent silence of the other members present, were a refreshing contrast to the atrocious bad taste of Dr. Aquilla Smith and Dr. Quain in the expression of their very peculiar views on the functions and abilities of dentists generally. With the first-named gentleman I have little to do; he, in common with all dupes of pretenders, is quite at liberty to seek Dental advice from his barber if he pleases, though why he should have paraded his peculiarities before the Medical Council is a puzzle, unless we take it on the ground that any stick serves to beat a dog, and as the dentists were to be beaten on that occasion, even the perverted ideas of Dr. Aquilla Smith for once served a useful purpose.

With Dr. Quain the matter is entirely different. Not content with exposing his crass ignorance of the scientific position and value of Dental Surgery, he must needs bolster up his ignorance by maligning the reputation of a great man who is no longer amongst us to speak for himself. I need hardly remind you, Sir, that the late Samuel Cartwright was a man of such scientific ability as placed him on the *rôle* of fellows of the Royal Society; but I may further state that his great and well-earned reputation was built on his desire to save rather than to "pull out" teeth, as Dr. Quain would have us believe, and that it was the energy and ability he brought to bear on carrying out these and similar objects, which placed him in his high professional position. As I have had the privilege of serving and receiving instruction from the first and second generation of Cartwrights, I need make no further excuse for asking you to publish this.

I am, Sirs, obediently yours,

L.D.S., Eng.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

#### MR. CATTLIN'S PLEA FOR INCOMPETENCE.

SIRS,—The *raison d'être* of the Association of Surgeons prac-



tising Dentistry has ever been a mystery to me. Although its business has hitherto been self-praise rather than any useful occupation, still I have always been unwilling to think that any number of gentlemen, however few, could knowingly follow such a charlatan like course of conduct.

The valedictory address of the President has, however, enlightened my darkness, and shown me the true object of the Association in question. Clearly these gentlemen who form the Association seek to impose on the profession and the public some knowledge, other than that of Dentistry, which they imagine they possess, and to dissuade dentists from studying that which alone can properly fit them for the calling in which they profess to serve the public.

Only a few succeed in making perfect gold stoppings, therefore it is not worth while trying to do so. Amalgam stoppings do very well for back teeth, and some of the white silicates for front ones, says the spokesman of the Association of Surgeons practising Dental Surgery; therefore, cease bothering about gold stoppings, and study Surgery in detail. Instead of striving by all means in your power to arrest the ravages of Dental caries, study rather how to recognise and cure skin diseases, or diseases of the eye, or of any and every organ, rather than give more than a modicum of time to the study of the diseases and treatment of the teeth, and instead of acquiring skill in controlling abnormal dentition, seek rather to know how to straighten crooked spines and abnormally curved limbs, in fact anything and everything rather than study that for which, as a dentist, you look for the professional consideration and remuneration you expect from the public.

The French give a shrewd caution to those who measure other people's corn by their own bushel, they say, "do not show your measure." If Mr. Cattlin in the pride of his surgical knowledge can afford to repudiate for himself and his own immediate associates the possession of tactile skill and a proficiency in the manipulative ability required in gold stopping, I must perforce accept his statement, but that he has neither right nor reason to apply the same measure to those who have been especially educated for the Dental profession, and who are not ashamed to stand or fall by the merits of the services they can render to their patrons, I most emphatically deny.

Into the merits of the materials recommended by Mr. Cattlin in lieu of gold as a stopping, I do not pretend to enter, but I think



that while a gold stopping either in incisor or in masticating teeth has in it all the elements of permanency, the silicates which he recommends for incisors have in them the certainty of dissolution and consequent failure, and I also confidently assert that the skill required for the successful use of either gold, or amalgam, or plastic stoppings of any sort, is not very different either in degree or kind. The summary manner in which Mr. Cattlin seeks to divorce the two so-called distinct branches of the profession, is a dash out of a difficulty which will hardly bear inspection. Let me ask how long Mr. Cattlin or his followers have adopted this line of practice, and where they draw the line? Mr. Cattlin refers with something like pride to the membership of the Oral Society of New York with which he and the Secretary of his Association have been favoured, but I suspect that the Oral Society will not feel elated with its selection of Honorary Members, when it learns the views which its polite generosity is wrested to support.

I remain, yours,

M.R.C.S. and L.D.S., Eng.

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TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

About a quarter of a century ago, a few practitioners of Dental Surgery, desiring to elevate their calling to a recognised profession, associated together for the purpose of establishing an Independent College of Dental Surgery. Their proposals, laid before public meetings duly convened by advertisement, were so far acceptable to their brethren as to secure a considerable adhesion of practitioners of weight and standing, and the institution was launched most successfully. Soon, however, it became known that another section of the profession was endeavouring to convince the Royal College of Surgeons of England of the duty of intervening in the matter, and (to shorten a well known history) eventually the new Institution was induced to forego its status and prospects, and to merge into the "Time Honoured Institution" of Lincoln's Inn Fields. This, however, was done upon a basis satisfactory to the party of advance, who certainly never dreamt of any after purpose upon the part of some of the new leaders to turn round and repudiate the work done. Whether it was wise upon the part of the College of Dentists to forego its purpose must be a question for time to determine, but there can be little doubt that thus induced by at least *some* of the leaders of the Society called "The

Association of Surgeons Practising Dental Surgery," it is a breach of faith on their part to endeavour to put in disesteem the legal qualification given to the Dental Practitioner after examination by the College of Surgeons.

It is not fair or honourable to describe the owners thereof as "little better than half educated up to the standard of Medical fitness required from its members," and further "that the licensing of half-educated specialists is repugnant alike to the best interests of the public and to the Medical profession at large." This is an undeserved taunt and an untruth, so far as regards those who have attained their qualification to practice by honourably working out their curriculum upon the basis prescribed by authority. Their education is "diverse, not inferior." It may be asked what would become of the *public* if they were left alone to the tender mercies of the *not* half-educated (so far as Dental Surgery is concerned) surgeon or general practitioner? The untold sufferings and revolting cruelties of fifty or sixty years ago would be more or less inevitably revived to the scandal of civilisation. Who that can recollect fifty years ago, and the horrors of extraction with the key instrument and no anæsthetics, but will thankfully concede that much is due to the distinct cultivation of *Dental* Surgery as a speciality. The very many improvements in every department (including the magnificent boon of anæsthetics) are due to DENTISTS as dentists, and not to our hospital teachers or professors, and for a surgeon (pure and simple) to appropriate without acknowledgment these splendid appliances and provisions, is like running away with and wearing other men's clothes. I am led, Mr. Editor, to make these remarks from perusing a report of an address by Mr. W. N. N. Cattlin, F.R.C.S., "on the imperfections of the Dentist's Act, with suggestions as to the alterations required to protect the interests of qualified surgeons" on the one hand, and on the other a "Report of the Committee of Council of the British Medical Association on Medical Education, January, 1881." In the latter publication we find it mentioned that the late Dr. Parkes made a statement at a meeting of the General Medical Council to this effect:—"That the Medical Corporations are admitting a number of men into the profession who cannot practice their calling with safety to their patients," adding, "I must say that in every examination we have had in the Indian service and the army during ten years I have been an examiner—and during that time nearly 800 candidates

have come before the examining boards—there have presented themselves on *every* examination a number of men so imperfectly prepared in the *practical* part of their profession that we could not admit them into the ranks of the service. Every one of these gentlemen brought forward the double qualification.” Dr. Sharpey confirmed this statement “as to the extreme insufficiency in point of *practical* skill” of some of the qualified men presenting themselves for examination for the Army Medical Service; and Professor Longmore, writing in November, 1879, on the subject, observes, “We see at Netley how little qualified in practical professional matters some of the young men are at starting who have passed the examinations for their licenses to practice, in many instances with much credit. Out of a batch of twelve men now at Netley, *all above the average*, not one could make a quantitative analysis of the urine, and only a few had a practical knowledge how to make a qualitative analysis. It is only in a few exceptional instances that I find a young surgeon coming to Netley, acquainted with the manipulation of the ophthalmoscope, or knowing how to determine the refractive quality of an eye.” “As a general rule, it is absolutely necessary prescriptions should be revised; and so on in numerous particulars.”

“It is argued that the men who enter at Netley are hardly up to the average standard of practitioners; this is an error, but if true, these gentlemen have all received diplomas and are legally qualified practitioners.” If this be so, and the authority is beyond question, we can understand what sort of dentists these men would make without a further *special* preparation tested by examination conferring license. True, it is proposed to abandon these fine tests of skill and manipulative attainment, gold stoppings and the nice adaptation of artificial teeth, upon which the health and comfort of nearly one-half of civilised mankind now depends; but the question will remain to be answered, into whose hands shall this practice fall? That it will be abandoned because the “Society of Surgeons practising Dental Surgery” is too *genteel* to undertake the one, and too self-satisfied to adopt the other, is too much to expect. It is, indeed, in the words of Mr. Cattlin, “always wise to shew polite deference for the opinion of others,” and after hearing those of Dr. Parkes, Dr. Sharpey, and Professor Longmore, we feel that we are in possession of data for estimating the claims set up by Mr. Cattlin more fairly than solely from an *ex parte* statement. I fear I have already too long trespassed upon

your space, though there is much more to be said. Pardon the prolixity of one whose range of memory takes in a sweep of more than fifty years of professional recollection, and whose interest in and jealousy for his profession, are the result of continued demonstrations of the blessings it confers on mankind, as well as those substantial reflex advantages which await its faithful, intelligent, and honourable pursuit.

SENEX.

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### Annotation.

THE pressure of other matter prevented us from noticing yesterday the close of a case in which one of the most respectable members of the Dental profession in Dublin was most unjustifiably placed in a very distressing position. Mr. John O'Duffy has been honourably acquitted of the absurd charge brought against him. We abstain from congratulating him on a result which was foreseen by everybody from the moment that the details of the accusation were made public. Mr. O'Duffy was guilty of a piece of imprudence—the result of a misunderstanding—which anyone might have committed under the circumstances. There was not the faintest ground for suspicion that there was any fraudulent intent, and in the result the complainant suffered no injury. The few minutes which the jury thought enough to give to the case are sufficient proof of the flimsiness of the charge.—*The Irish Times*, February 16.

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### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.P.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

MARCH NUMBER will be withheld till Subscriptions are paid.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A

*MONTHLY REVIEW OF DENTAL SURGERY.*

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## Association Notices.

MEMBERS of the Association can have a copy of the Dentists' Register for 1879-80, by enclosing six penny stamps, with name and address in full, to the Honorary Secretary, James Smith Turner, Esq., 12, George Street, Hanover Square, London, W.

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### British Dental Association (Midland Branch.)

THE Annual Meeting will be held (by the courtesy of the Liverpool Medical Society) in the Medical Institute, Mount Pleasant, corner of Hope Street, Liverpool, on Wednesday, May 4, 1881. J. Smith Turner, Esq., has kindly promised to be present.

H. Campion, Esq., M.R.C.S., President; R. E. Stewart, Esq., L.D.S., Vice-President; S. Wormald, Esq., L.D.S., Treasurer; W. H. Waite, Esq., L.D.S., Secretary.

*Order of Proceedings.*—11.0 a.m., Council Meeting; 12.0 noon, Business Meeting of Members; 1.0 o'clock, Adjournment for Luncheon\*; 2.30 p.m., General Meeting†. Casual Communications; "On an improved method of fixing Bonwill Crowns," by G. E. Brunton, Esq., of Leeds; On "Cutting-up Amalgam" and "Notes on Plaster of Paris," by Roff King, Esq., L.D.S. of Shrewsbury. 3.30 p.m., Papers and Discussion. "On the local treatment of Alveolar Hæmorrhage," by W. H. Nichol, Esq., L.D.S., Leeds; "On the use and abuse of certain Medicaments, in the treatment of Dental Disease," by Leo. Matheson, Esq., L.D.S., Manchester; 6.30. p.m., Dinner at the Adelphi Hotel, Lime Street. Tickets, 7s. 6d. each, to be obtained from the Secretary.

Gentlemen, who may be able to remain over the following day (May 5), will have an opportunity of visiting any of the under-mentioned places and objects of interest:

St. George's Hall, open daily; Grand Organ performance, Thursday evening, at 8. Sixpence each. Free Library and Museum, open daily. Walker Art Gallery, open daily. Picton Reading Room, open daily. Arrangements will also be made by which Members of the Branch will be admitted to view the splendid steamers of the Cunard, Inman, and White Star Lines; also the extensive Grain Warehouses and Machinery of the same, belonging to the Mersey Docks and Harbour Board; North Shore Mills, Shipbuilding Yards, &c. &c.

The Secretary will be glad to hear beforehand from Members intending to avail themselves of the pleasure thus offered.

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\* (Members are recommended to the Restaurant under the Adelphi Hotel, where an excellent Lunch can be procured for 1s. 6d. Omnibuses pass the Institute and the Adelphi.)

† Each Member and Associate can admit two Visitors to this Meeting and also to the Dinner.

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APRIL, 1881.

VOL. II.

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The Medical Council and the Dentists.

THE correspondence published in our late issues shows considerable anxiety on the part of the writers as to the position the Association is placed in by the recent action of the Medical Council.

A brief consideration of the leading points of the case may help us to arrive at a just conclusion.

It is notorious that the Dental Register contains the names of a number of persons who, according to the reading of non-legal people have no right to be there, inasmuch as they had entered their qualification as "in practice with pharmacy," when there was no record of them to be found in the Chemists' and Druggists' Register. The Representative Board took the opinion on this point of Mr. Fitzgerald, the draughtsman of the Dentists' Act. His opinion was that "a person who declared himself to be engaged in the practice of Dentistry, in conjunction with pharmacy, but whose name does not appear in the Chemists' and Druggists' Register, is liable to have his name erased from the Register," and that "the General Council can and ought, in the supposed case, to erase from the Register the words "with pharmacy" as being an in-

correct entry within the meaning of the first paragraph of section 13 of the Dentists Act," and further, "If the registration was obtained by false or fraudulent representation, the person making the representation is clearly liable to punishment, under section 35 of the Act, and the whole entry might be erased as fraudulent."

Thus strengthened by Counsel's opinion, the Honorary Secretary wrote to some 500 persons and drew their attention to the consequences that might ensue if their names were not withdrawn. A considerable number withdrew their names, thus showing that their right of entry was self-condemned. At the same time the Medical Council took the opinion of Mr. C. Bowen. His opinion, with that of Mr. Fitzgerald was discussed by the Council with closed doors; but it was understood that the views of the two counsels did not materially differ. The names of about 400 persons who had declined to notice the Honorary Secretary's letters, were then sent up to the Medical Council, and that body directed that the opinions of other Counsel should be taken.

The Solicitor-General—Mr. F. Vaughan Hawkins, and Mr. M. Muir Mackenzie—were consulted, and their opinions may be broadly stated as decidedly opposed to that of Mr. Fitzgerald and the supposed one of Mr. C. Bowen nay more, they considered that the phrase in clause (c) section 6 "separately or in conjunction with the practice of medicine, surgery, or pharmacy" was inoperative, and that the Medical Council were not entitled to enter such qualification on the Register.

Further, at a meeting of the Medical Council on the 3rd of February last, it was moved by Dr. Humphry, seconded by Dr. Quain, and agreed to—

"That the persons mentioned in clause (5) of the Dental Committee's report, as having been actually removed from

the Register at their own request, be on their application restored to the Register without fee, subject to the discretion of the Executive Committee, as to the grounds on which their names were so removed, and the grounds on which registration is claimed."

To some the matter may appear to have arrived at a dead lock; we cannot look at it in this light. The conflicting opinion of Counsel is the very breath of legal life, without it, trials, judges, and juries would be unknown, because unnecessary—with it, the whole legal machinery becomes a necessity. Be it borne in mind these conflicting opinions are no settlement of the doubt. No decision has been arrived at; one Counsel tells us the Act reads one way, the other that its meaning is the direct reverse. All we have arrived at is that (if we have the means) we can enter upon a campaign, the result of which experts tell us is doubtful. The only mode of settling the matter finally, is by a legal prosecution. A case submitted to the Courts, if successful, would at once purge the Register of hundreds of names that have not and never had a shadow of right to be there; but how is this to be effected? Letters of advice, letters of remonstrance, letters calling the Representative Board to account for inaction will not do it. A few hundred subscribers to the Association will be more effectual than tons of letters.

A prosecution such as we have referred to will require many hundreds of pounds. How much have we received? Has the response of the profession been anything approaching to what the Representative Board had a right to expect? Let our list of members amount to what it certainly ought, namely, 1200 to 1500, and the Representative Board will at once take steps to clear the blemishes on the Register. A glance at the published balance sheet will show that the response up to the present time is lamentably short of what it should be.

"M.R.C.S." in his valuable letter in our last number says, "There can be no doubt the money would be forthcoming." This is precisely the point on which the Board from their past experience cannot agree with him.

Let us not be misunderstood, we fully recognise the fact that considering the age of the Association its success has surpassed that of kindred societies, but if we are to resort to the aid of the law we shall require largely increased resources.

Let those on the Register who really have the welfare of our body at heart, come forward and join the ranks of the Association, they may then depend on the Representative Board testing the question in a court of law. Given the means, action will be taken. Without these means there is but one alternative available, namely, the fluxion of time. Shall we sit supinely waiting for the hand of death to effect that purification which a slight self-denial and combined action would almost immediately affect?

Should the profession (which we do not believe when the case is fairly before them) elect the last alternative, let us hear no more of these appeals to the Representative Board of "Why do not you do this?" "Why do not you prosecute here?" Our advice to our friends is, put your shoulders to the wheel as the Representative Board have done, and your difficulties will be at an end.

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### Development of the Teeth.

In the first number of 1881 of the *Journal de l'Anatomie et de la Physiologie*, MM. Ch. Legros and E. Magitot, have published the results of their most recent investigations into the development of the Dental organs in mammals. These researches have led the authors to conclusions in many points at variance with previous observations, and throwing a good deal of light upon many other matters that have been regarded as uncertain hitherto.

In their preamble the authors lay great stress upon the fact that all the variations of structure observable in the teeth of adult vertebrates are represented by variations in



the formative follicle. The tooth is born in a formative follicle, which in its embryonic state has as many special organs as the future tooth is destined to have tissues.

Enamel, dentine, cementum, pulp and periosteum, are all represented in the follicle; the enamel by the enamel organ, the dentine and cement by special portions of the follicle. They further state that where enamel and dentine co-exist, they develop simultaneously, and that this is the most common typical form of tooth. The regularity and constant order of appearances of the dentine cap and the successive phases of its development is sufficient to render it a valuable and reliable point of evidence in determining the age of an embryo from a medico-legal point of view.

The dentine is the first hard tissue to appear in the formative follicle; at a regular period, and always at the same point, namely, the apex of the bulb at the line separating the bulb from the enamel organ, it appears as a dark opaque point, shaped like a hollow cone, one of these cones appearing for each of the future cusps of the tooth, thus a canine has a single cone, while a central has three. The point in the bulb, when this first trace of the dentine is observed, is represented by the layer of hyaline amorphous material which has been often mistaken for a membrane (*membrana preformativa*), this layer encloses in its substance the odontoblast cells, the which cells have processes running towards the surface and others connecting the odontoblasts with the pulp cells beneath them, and through these latter with the nerve endings of the sensory plexus of the bulb. The dentine is produced around the peripheral process of the odontoblast.

A careful examination of the bulb at this period elicits the following facts:—

1. Beyond the odontoblast layer the bulb tissue shows no other peculiar appearances than hyperæmia, congestion, and an excess of calcareous materials.

2. At the level of the layer of cells these latter undergo no modification in substance, and present no change of aspect.

3. On the peripheral side of the cell layer in the intervals between the cell processes a deposit of hard transparent calcareous material takes place.

From these facts the authors conclude that the dentine only appears in that material which surrounds the peripheral processes of the cells.

They neither agree with Koelliker, Leut, and Hertz, that the bulb secretes the dentine, nor with Waldeyer, Frey, Boll, Beale, and the two Tomes, that the cells are themselves changed into dentine; this latter opinion they have hitherto held, but they abandon it now, and state their conviction that the dentine "is a product of elaboration on the part of the dentine cells," in the formation of which the cells play a constant part throughout life, namely, by elaboration of the calcareous materials brought by the blood in such a manner that they are deposited in the form of dentine. They repudiate any adherence to the doctrines of secretion, considering that the dentine has nothing in common with a secretion. The authors then describe the encroachment of the new dentine upon the bulb until a portion of it is embraced by it, and cut off from all communication with its parent tissue, save by the affixed foramen. Further they urge that in every healthy living tooth the dentine is lined by cells whose processes, ramifying through the substance of the dentine, supply it with life and sensation.

Touching the tubes, or sheaths, of Neumann, the authors conclude that they have no real existence whatever, and are only visible as hollow tubes when the destruction of the fibril has given them artificially this appearance. They prefer to regard the dentine as a network of filaments, enclosed in a matrix. The tubes can be seen only in disease, or after the use of re-agents—while the tissue is healthy they cannot be seen, because they are not there, but as soon as the preparation dries, the fibrils change, they become dark and opaque, and it is their post mortem retraction that results in the formation of the tube.

*(To be continued.)*

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## STATE OF FOLLICLES.

## STATE OF EMBRYO.

		Age.	TEMPORARY DENTITION.				PERMANENT DENTITION.				
			Central Incisor.	Lateral Incisor.	1st Molar.	2nd Molar.	Canine.	1st Pre-molar.	2nd Pre-molar.	1st Molar.	
Length of Vertex to Heel.	Total Weight.										
3 centim.	3.5½ gr.	7th Week.	At this date the Epithelial Pad and layer of Koel-like may be seen at the edge of the jaw, the centres for the sup. max. and incisor not united. Meckel's cartilage, but no bone in lower max. Enamel organs of milk set from successively in above order during this seventh week.				No trace of Follicles.				
3-4 Centim.	10-12 gr.	9th Week.	At deep end of Epithelial inflection appears first trace of bulb, simultaneously or with only a day or two interval for the whole set.				No trace of Follicles.				
4-6 Centim.	45-48 gr.	10th Week.	Sac wall detached from base of bulb to rise round its sides. Same order as above.				No trace of Follicles.				
15-18 Centim.	100-120 gr.	15th Week.	Sac wall continues to develop. Differentiation of enamel organ commences.								
18-19 Centim.	120-180 gr.	16th Week.	Sac closes; neck of enamel organ breaks, freeing germ from all connexion with mucous membrane.				Infection of Epithelial from neck of temporary enamel organs.				
							Infection of Epithelium.				

20-21 Centim.	180-220 gr.	17th Week.	Central Incisor. Dentine Cap.	Lateral Incisor. Dentine Cap.	Canine. Dentine Cap.	Bulb appears
21-24 Centim.	220-250 gr.	18th Week. (4 Months)	1st Molar. Dentine Cap.	2nd Molar. Dentine Cap.		Sac appears.
25-27 Centim.	280-480 gr.	20th Week.	Vertical Height of Dentine Cap.			Bulb appears.
32-35 Centim.	<sup>1</sup> kg. 1 kg., 500	25th Week.	1mm, 5	1mm.	1mm, 5	Sac closes, neck ruptures
37-39 Centim.	<sup>1</sup> kg., 500 <sup>2</sup> kg.	28th Week.	1mm, 9	1mm, 4	1mm, 9	Dentine cap
40-42 Centim.	<sup>2</sup> kg. 2 kg., 500	32nd Week.	2mm, 4	2mm.	2mm, 4	Cap 0 mm 1 to 0 mm 2.
44-47 Centim.	<sup>2</sup> kg. 2 kg., 500	36th Week.	2mm, 9	2mm, 4	2mm, 9	Carps unite.
45-52 Centim.	<sup>3</sup> kg. 3 kg., 500	39th Week.	3mm	2mm, 8	3mm	Cap 0 mm, 8 to 1 mm.
			3mm, 5	3mm.	3mm, 5	Cap 1 mm to 2 mm.
						Closure of sac Cap does not appear till first month after birth.

### Cohesive *versus* Soft Gold.

THE American dental journals inform us of an interesting and spirited discussion "On the Relative Merits of Cohesive as compared with Soft Gold for Filling," that took place at the annual meeting of the American Dental Association, held at Boston. The speakers generally, who took part in the discussion, advocated the views that accorded with the methods of their own practice rather than the true merits of the question, assigning failure in either case as due to a want of manipulative skill not to the condition of the material. The subject is an extremely interesting one, and we would gladly throw open the pages of our journal for its discussion.

There is, perhaps, no fact more certain than this, viz., that there are very few operators who are, first class in the employment of both methods. We well remember the words of one who, as a practitioner, was, we believe, never surpassed, at least, for his success in preserving the teeth by filling:—"If I attempt to fill teeth with gold by the cohesive method for any length of time, I find my hand to get out of practice for the non-cohesive method, and *vice versa*."

Irrespective of the most important consideration of the form of the cavity, the advantages of gold in the cohesive form lay in the facts that it can be more easily manipulated by, of course, properly trained operators, than soft gold, that it yields a much harder surface, and that it may be built up beyond the level of any cavity. The merits of soft gold consist chiefly in the facts that it is more accurately adaptable to the walls of a cavity—as shown in the experiments when tested by Drapers' Ink, and that it affords a more elastic mass than the cohesive. A filling of cohesive gold is probably little more elastic than one of amalgam, which, unless it slightly expand in setting, remains simply in apposition but not in close contact with the walls of the cavity; such a material must be affected by changes of temperature—such as vary from that of hot soup or coffee to iced water, the one often immediately following the other, and though the amount of expansion and contraction be very small, it may in time allow other than the most limpid fluids of the mouth to find access to the cavity. A non-cohesive plug, on the other hand, is, or ought to be, simply retained in a cavity by its elasticity, it is, moreover, less dense than a cohesive one, containing more air in its interstices, and being consequently an in-



ferior conductor of heat; hence, not only do changes of temperature less affect an alteration of its dimensions, but even the little tendency to such is compensated for by its elasticity.

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### Two New Anæsthetics.

WITHIN the last nine weeks, there have been recorded in this Journal seven deaths from chloroform administered under skilled supervision, six of these occurring in Britain, and one in America. Such a fact, to put the case in no way strongly, is not creditable to our therapeutics; and we, therefore, gladly welcome what promises to be an important addition to our list of anæsthetics by Dr. Edward Tauber, Privat-Docent in the University of Jena.

Like chloroform itself, when first used by Sir James Y. Simpson in 1847, the two substances experimented with by Dr. Tauber are not newly discovered, but have been known since their discovery and isolation by Regnault in 1838 and 1840. They are isomeric bodies; monochlor-ethylidenchloride, or methylchloroform ( $\text{CH}_3, \text{CCl}_3$ ); and monochlor-ethylenchloride ( $\text{CH}_2 \text{Cl}, \text{CHCl}_2$ ).

Methylchloroform is a fluid of 1.372 specific gravity, having an odour like that of chloroform, and boiling at  $167^\circ$  Fahr. It is the second product of the action of chlorine on chlorethyl, the first being ethylidenchloride. By alcoholic potash and great heat, it is decomposed with difficulty into potassic acetate and potassic chloride. This decomposition is parallel with that of chloral-hydrate into chloroform and potassic formiate; but since in the case of methylchloroform, neither component has an anæsthetic action, there can here be no question of a "component action," such as Liebreich has supposed in the case of chloral-hydrate. With this substance, then Dr. Tauber has experimented on various animals, and also on himself. His experiments on frogs and rabbits showed rapid and complete anæsthesia, with no noticeable influence on pulse or respiration. In a dog of 10 to 12lbs. weight, a dose of 40 to 50 drops (4 to 5 grammes) produced complete anæsthesia of nineteen minutes' duration; and, during this time, the respirations in the deepest narcosis were more numerous, and the pulse showed but slight variations. On himself the experiment was performed by Dr. von Langenbeck. Complete anæsthesia was produced in  $5\frac{1}{2}$  minutes, and lasted ten

minutes. There was no stage of excitement; respiration was quiet; the pulse 84, regular, and of good tension. No reflex followed stimuli, such as pricking with a pin, pulling out hairs of the beard, &c. The dose used was about 20 *grammes*. Shortly after return of consciousness, he had vomiting, caused no doubt, by his having breakfasted two hours before; but beyond a feeling of *malaise* for about an hour, he had no other discomfort; and at six o'clock he took his dinner as usual.

Monochlor-ethylenchloride is a fluid of 1.422 specific gravity, having also an odour like that of chloroform, and boiling at 239° Fahr. It is formed either by the action of chlorine on ethylenchloride ( $C_2H_4Cl_2$ ) or of chlorvinyl ( $C_2H_3Cl$ ) on perchloride of antimony. With alcoholic potash, even in cold, it readily decomposes into potassic chloride and dichlorethylene ( $C_2H_2Cl_2$ ), a fluid boiling at 98.6° Fahr. Dr. Tauber's experiments with this substance gave even more favourable results than with the last. In frogs, pigeons, guinea-pigs, and rabbits, a few drops produced rapid and complete anæsthesia, with even in the deepest narcosis, only the slightest diminution of respiration and pulse frequency. In dogs of 10 to 14 lbs. weight a dose of 30 to 50 drops (3 to 5 *grammes*) caused in 3 to 7 minutes complete anæsthesia, lasting from 11 to 19 minutes. The pulse rose considerably in one case, slightly in three others, but in no case was there a fall. The respirations were increased or very slightly diminished in frequency. In a dog of 50 lbs weight, the kymographion showed no diminution in blood-pressure during anæsthesia with monochlor-ethylenchloride.

The high-boiling-point and easy decomposition of monochlor-ethylenchloride by potash, combined with the speedily occurring and rapidly passing anæsthesia produced by it, lead Dr. Tauber to attribute the effects to its component dichlorethylene, which boils at blood-heat. That is, for this substance, he would grant the "component action," denied on chemical and clinical grounds to chloral-hydrate.

Dr. Tauber promises further experiments, and more especially with the latter substance on man. We shall await with interest the results of these experiments; and with still more interest do we look forward to the results of the trial of these substances in actual practice. They will no doubt receive the attention of the Glasgow Committee on Anæsthetics of the British Medical Association. We may add that we propose in a very early number to

publish the full text of the third report of this Committee to the Scientific Grants Committee of the Association, of which the abstract was read at the annual meeting at Cambridge, and which contains much valuable and original matter.—*British Medical Journal*.

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## The Croonian Lectures on the Influence of the Circulation upon the Nervous System.

*Delivered before the Royal College of Physicians.*

By WALTER MOXON, M.D., F.R.C.P.,  
Physician to Guy's Hospital.

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### LECTURE I.

AN essay might well be written on the consequences to medicine of the rise and expansion of the science of biology; to show how it affects medical study that the physiology of man has become a special branch of a physiology of living things. This is not the occasion for such an essay, nor even for such a remark; but the remark arises because, in beginning these lectures on the behaviour of the human brain under varying states of the circulation of the blood within it, I was of course induced, as a first step, to bring forward the natural history of the subject. But when I referred to the excellent and ably written text-book which is now universally employed as a student's manual in physiology and searched in it for the physiology of the circulation in the human skull, I did not find a word upon the subject. I found a full and very interesting account of the falling off of ranine intelligence which reveals itself when the several parts of the brain of a frog are successively cut away; but no notice of the curious and very important mechanism whereby the human brain is made secure within the skull, under the varying stress of blood-pressure that accompanies bodily or mental exertion. I observed that the biological physiologist regards the human brain as at one with the vertebral brain—a general kind of thing, more easily studied in the frog, the dog or the monkey, on account of its simpler development in these animals. The biologist thus takes vertebrate brains at large; and it appears that to him the blood-supply of the human brain is a detail respecting one kind of brain only, and he cares nothing for its congestion, and giddiness, and insensibility; such particulars are lost sight of in the large scope of biological science. For biology tends to wideness of scope and generality of principle. Indeed, it appears not to be quite happy far out of sight of protoplasm; it goes back to protoplasm to trace up the general nervous system, and says nothing about the cerebro-spinal fluid. But it cannot be conducive to

clearness of medical thought upon the circulation in the brain, that protoplasm should have displaced the cerebro-spinal fluid from works in which medical students learn human physiology. It is not as though protoplasm were better founded than the cerebro-spinal fluid. It is not so well founded. For there can be no doubt that there is such a thing as the cerebro-spinal fluid; nor is there any doubt that it fulfils vitally important functions, which greatly concern those who are called upon to be clear about the causes of giddiness or insensibility. But it is by no means certain that there is such a thing as protoplasm.

The biologist reduces the various behaviour of the nervous system to what is called the irritability of what is called protoplasm. He regards protoplasm with the same undoubting confidence in its reality as the physical philosopher has in the reality of motion, when he, on his part, reduces all the kinds of activity in unliving matter to terms of what he calls motion; so that heat is a mode of motion, and electricity a mode of motion, and light a mode of motion. Other philosophers less restrained by fixation in the science, either of living or of unliving matter, generalize one sweep more widely, and tell us that vital motion is a mode of motion; so that we may take out all things knowable, even to human thought, in terms of motion, much in the same way as all kinds of value, even to human motive, might be taken out in terms of pence. But of course it is true that, just in the same way as all kinds of value might equally rightly be taken out in terms of shillings or of pounds as in pence; and just in the same way as all kinds of activity in unliving matter might equally well be taken out in terms of electricity, or in terms of light, as in terms of what is called motion; so also the behaviour of living matter might as rightly be taken out in terms of the brain-cell or of blood, as in terms of what is called protoplasm. For the only basis of knowledge in all these systems is equivalence in convertibility. The capitalist knows that his pound is convertible to so many shillings, or may be expressed in terms of shillings. The physical philosopher that his foot-ton is convertible to so much electricity, or may be expressed in terms of electricity. And the biologist thinks that the nerve-cell is convertible to so much protoplasm, or may be expressed in terms of protoplasm. And the other philosopher, less restrained by fixation in the science, either of living or of unliving matter, thinks he knows that vital motion, even to human thought, is convertible to so much motion. Meantime, the physical philosophers have been led to say that heat is a mode of motion, only because mechanical motion is more universally appreciated by our senses; so that it is natural to employ it as a standard. And, for all we know, the higher animals in the planet Jupiter may be so organised that they obtain mechanical motion only by difficult experiments, as we do electricity; whilst in their hot region they have electricity always obvious to their senses. In this case, we may depend upon it they would naturally say mechanical



motion is a mode of electricity; for there is no sense of reality in which electricity is not as real as mechanical motion; and it would be quite as right to adopt electricity as the standard, and say motion is a mode of electricity. In fact, electricity reveals the nature of motion, and motion reveals the nature of electricity. They mutually reveal their common nature; under certain conditions, the one becomes the other. And the physical philosopher, for purposes of exposition, chooses mechanical motion which is the most tangible and the best known, and adopts it as the common standard for his reference, and the basis of his thought and reasoning. But the biologist, in his field, reverses this plain method of dealing, and makes his thought and reasoning rest on protoplasm, which is not the most tangible and the best known of the things with which he deals. Indeed, it is so far from being so, that it does not exist at all. There is no such thing as protoplasm. I have watched what is called protoplasm in what are its most nearly pure forms, at work, and it was plain that its properties depended altogether on whose protoplasm it was; and that, when anything is to be done with it, or by it, you must accept it with its own peculiar powers as it is at work before you; and that if you act towards any living thing in terms of protoplasm, with the idea of in that way getting a product of its life and nature, you find you have got hold of the wrong end of the stick, and that your abstract idea of protoplasm does not fit to the vital faculty, which acts in, and I may say is, the living thing.—*The British Medical Journal*.

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## International Medical Congress.

### SEVENTH SESSION.

RULE I.—The Seventh Session of the International Medical Congress will be opened in London on Tuesday, the 2nd of August, 1881, at the Royal College of Physicians, Pall Mall, where the Executive and Reception Committees will meet the Members between the hours of 3 p.m. and 6 p.m. The meetings for business will commence on Wednesday, August 3rd, and will end on Tuesday, the 9th of August.

Members will be registered and tickets issued on the 2nd of August, and on succeeding days, during the Session of the Congress, on making personal application at the Office of the Reception Committee at the College of Physicians, Pall Mall, between the hours of 9 a.m. and 5 p.m.

Tickets may also be obtained beforehand from the Reception Committee by intending Members, on payment of their subscription, and upon their making a properly authenticated application.



RULE VI.—The First General Meeting of the Congress will take place on Wednesday, August 3rd, at 10 a.m., in St. James's Hall, Regent Street, when the Congress will be constituted, and the President will deliver an Inaugural Address; and at three o'clock on the same day the Sections will meet for the transaction of business in the rooms allotted to them. The Congress will subsequently assemble twice daily, from 10 a.m. to 1 p.m. for Sectional Meetings, and from 4 to 5.30 p.m. for General Meetings. Any section requiring additional time may meet from 2 to 3.30.

RULE VII. The general meetings are reserved for:

1. The Transaction of the General Business of the Congress.
2. Addresses or Communications of scientific interest more general than those given in the Sections.

RULE IX. Notices of papers, together with abstracts of the papers, to be read in any one of the sections must be sent to the Secretaries of that section before April 30, 1881.\* These abstracts will be regarded as strictly confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various sections will be received. Any Member after April 30, wishing to bring forward a subject not upon the programme must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The Officers of each Section will decide on the advisability of accepting any communication addressed to their Section, and also the time when it shall be made. No communication will be received which has been already published.

#### MUSEUM COMMITTEE.

Jonathan Hutchinson, Esq., Chairman; Alban Doran, Esq.; F. J. Gant, Esq.; Dr. J. F. Goodhart; Dr. F. Macnamara; Dr. Norman Moore; Dr. Vivian Poore; Chas. Stewart, Esq.; Warren Tay, Esq.; H. H. Clutton, Esq., Secretary, 16, Palace Road, St. Thomas's Hospital, London, S.E.

A Temporary Museum will be opened in the rooms of the Geological Society, during the sittings of the Congress. All objects of novelty or rarity having reference to the Processes of Disease or the Results of Injury, will be acceptable for exhibition.

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\* We trust the Secretaries of Sections have some discretionary power in this ruling.

The Committee in charge of it will be especially obliged by the loan of drawings, photographs, and models, for the efficient display of which careful arrangements will be made. The greater part of the Museum will probably consist of miscellaneous objects, but there are some subjects to which it is intended to devote special attention.

The Museum Committee will also be glad to receive and exhibit all preparations and drawings used for the illustration of Papers in the various Sections, or having reference to the subjects discussed.

Arrangements will be made for the exhibition of a limited number of Microscopic Objects. In most instances it will probably be found convenient for the exhibition of special series to take place at fixed times previously arranged and announced, at which the exhibitor will probably attend to give explanations.

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### Reviews.

*A Treatise on Oral Deformities as a Branch of Mechanical Surgery.*

BY NORMAN W. KINGSLEY, M.D.S., D.D.S., H. K. Lewis,  
London, 1880.

(Continued from page 29).

To the chapter describing the treatment of irregularities we must give unqualified praise; in it a selection of methods have been described and copiously illustrated, which will give new ideas to almost every practitioner. We are particularly glad to see that Dr. Kingsley, whilst conservative enough to satisfy any really thoughtful operator, does not, like some of our transatlantic confrères, regard it as a species of sacrilege to extract for regulating purposes any of the thirty-two teeth that the Creator has placed in the jaws, and that he is not afraid of the strictures which will be passed upon any one who fails to advocate indiscriminate expansion of the arch. His advice to carefully study articulated models of both jaws, and if need be, to cut off the teeth and rearrange them, leaving one or more off, is a valuable practical hint.

Upon the subject of palatine defects, Dr. Kingsley is an acknowledged authority, and his manner of making the appliances with which he has been so eminently suc-

cessful as to render it a question whether the operation of staphyloraphy is ever worth performing in an adult, is set forth in all detail. The sum of his experience goes in favour of the rigid or Suersen obturator for congenital fissure, but with the proviso that it is very often necessary, and always desirable, to educate the patient in speaking with a soft, flexible velum; after good speech has been learnt, a rigid obturator may be substituted, although to commence with the rigid obturator is to expose the patient to needless difficulties which he may fail to overcome.

Some very interesting and out-of-the-way examples of "buccal" and "nasal" prothesis are given; amongst others, a case in which an attempt was made to lift the bridge of an exceedingly sunken nose, and, although the end of the case was total failure, it reflects not a little credit upon the ingenuity and resource of the planners of the operation and of the appliance. Another case in which an appliance of twenty carat gold, hollow and thin for lightness, was permanently enclosed within the soft parts by a plastic operation which aimed at restoring the cheek—which with half the lips had been previously shot away—will also repay careful reading.

The chapter treating of Maxillary Fractures came largely from the pen of Dr. St. George Elliot, and gives a history of the various appliances which have been proposed, as well as of those to which he gives the preference. The necessity for treating each case intelligently, and the impossibility of having any general apparatus applicable to all cases, is enforced and summed up thus: "The best results are not likely to be obtained by using any one form of splint, without reference to the location or direction of the fracture, and success will depend quite as much upon the judicious selection of apparatus already proved, as upon any effort to increase the present large variety."

The author's remarks on what he terms the æsthetics of dentistry, are also deserving of very careful perusal; it is to be regretted that there crops up here and there a tendency towards fine writing, and hence a certain number of

paragraphs which might have been with advantage left out or curtailed; but, nevertheless, these last sixty pages deserve the most careful study, for there is embodied in them the experience of a dentist unusually observant, who has given his most earnest attention to those matters which are so apt to be slurred over in practice, notwithstanding that it is upon them that the general good effect of an artificial denture depends. In no other work with which the writer of the present notice is acquainted have those points, whereby the expression of a face is made or marred, been systematically treated of, and brought within the pale of exact observation and description.

Dr. Kingsley must be congratulated upon the production of a work which contains an unusually large amount of his own personal experiences and devices, and at the same time, studiously aiming at historical accuracy, accords the credit of origination to whomsoever it is due.

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*Proceedings of the General Medical Council and of the Executive and Dental Committees in regard to the Registration of Dentists.*  
London, Spottiswoode & Co., 30, Parliament Street, S.W.

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- (a.) From April 10th, 1878, to March 21st, 1879, pp. 132. Price 2s. 6d.  
(b.) From Jan. 8th, 1879, to Feb. 3rd, 1881, pp. 222. Price 2s. 6d.
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NEVER in the history of Dentistry have there appeared two such volumes as those now before us. Clad in sombre grey covers and at first glance dry and essentially official, they abound in information for those who take an interest in the welfare of the dental profession, and who long for a correct knowledge of the progress and culmination of the revolution which has so suddenly overtaken us, but which is in reality the outcome of the unceasing work of a quarter of a century. It is in the nature of things that a work extending over so great a period of time should change its aspect, and that which exists now seem another work from that which commenced so long ago. It is not only that the revolution of years should, kaleidoscope-like, change the relation of circumstances, and even the circumstances themselves, but both actors



and observers change. In many instances the original actors pass away, and those who take their places are, in turn, followed by an increased host of observers, who see little beyond the present aspect of affairs, and consequently are unable to realize the conditions from which the work originally started. To all such recent observers the change in the social and scientific position of dentistry must seem sudden almost to rashness. A perusal of "The History of Dental Reform,"\* by Mr. Alfred Hill, will dissipate the first named impression, and an attentive study of the volumes before us ought effectually to dissipate the second. Small and unimportant in their appearance, dry and official in their statements, they are nevertheless pregnant with instruction concerning the past, and with guidance as to the future of those who are contented to sink individual superiority, real or imaginary, and work only for the welfare of the profession which they have chosen.

We are certain that these volumes only require to become known to be appreciated, and that by and bye not only the whole dental profession, but the medical profession at large, will realize the value and extent of the labours of Mr. Miller, the Registrar, who has so ably and successfully summarized the history of the proceedings of the Medical Council in connection with the Dentists' Register. Whatever errors the Medical Council may have been led into, the student of these volumes will see that the amount of labour bestowed by that body on dental matters has been immense, and they will also catch a glimpse of the proceedings of those of our own profession and those few members of the Medical Council who have invariably opposed the Dentists Bill, and of the astute vigilance and industry of those who have carried on the work of dental reform up to the present time. The history of the movement may, so far, be divided into three periods: 1st, the formation of the Dental Reform Committee: 2nd, the introduction of the Bill into Parliament, and 3rd, the passing of the Act and the publication of the Register by the General Medical Council, &c., &c.

These volumes are, to a great extent, a review of the second and third stages. Volume (a) opens with the following striking extract from an address delivered by the President of the General

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\* "The History of the Reform Movement in the Dental Profession in Great Britain." London: Trubner & Co.



Medical Council at the opening of its Twenty-fifth Session, April 10th, 1878:—

“The body of Dentists—a class in the body politic of whom, when the actual suffering which they seek to prevent and to alleviate is taken into account, one must say that it is an important and useful body—urged on the attention of Parliament their claims to better organisation, depending on and justified by a higher education and fitness.” This is followed by a communication from the Royal College of Surgeons of England on Sir John Lubbock’s Bill, and at the next meeting, held on the 13th of the same month, was read the letter from John Tomes, the President of the Dental Reform Committee, setting forth the origin and position of the Committee, and the nature and aims of the Dentists Bill. The records of the next two, and indeed many other meetings, though brief, are interesting by the light which they throw on the difficulties which the Bill encountered, and the assiduity with which a certain active member of the Council seems to have started difficulties in the way of its progress, and they go far to account for the determined hostility which the proper administration of the Act has received from him. Then comes an account of the great meeting of the Council—great so far as Dentists are concerned—summoned to consider, amongst other matters, the form and manner of registration, and the delegating of power to a Committee, &c., under the provisions of the Dentists Act. Sir John Lubbock’s Bill had been passed, and the Medical Council had now to take up the work assigned to it by the Dentists Act.

It is curious to observe how an erroneous impression once received will retain its hold upon the mind, although it may be frequently contradicted. In introducing Dental matters at this meeting, the president says:—“A private bill confined to regulating the education and registration of dentists not being opposed has passed.” Although we may venture to claim the President of the Medical Council as a kind and judicious friend to the Dentists’ Bill, still we think he is in error in saying it was unopposed, on the contrary, the alterations which had to be made in its provisions in order to modify some of the unfriendly and determined opposition which it encountered, have been the main source of the difficulties in which the Medical Council has been placed in the administration of the Act by those who, unable to destroy it, still seek with malignant spite to disfigure it; true the disfigurement

is but temporary, but for the time being it is effective in the eyes of those who cannot see or care not to look beyond the surface. The second and more important misconception is that it was a private bill. On the contrary, so confident were the promoters of the bill in its ultimate success, that they made it public on the first opportunity afforded them by the medical authorities who, from the deep interest which they took in it from the first, evidently at once saw the value of and necessity for such a measure. Had the bill remained a private one, we much fear that the pockets of its supporters throughout the profession would have had to have borne a drain of two or three times the amount which they have been called upon to do, before the bill had become law.

The remainder of this volume, and the whole of volume (B) are full of the most interesting condensed accounts of the long and varied discussions and correspondence which followed the formation of the dentists' register by the Council. The reports of the Registrar are instructive, and would be amusing were they not humiliating and significant of the increased amount of unnecessary labour entailed on him by the ignorance or carelessness which is characteristic of so many people.

The latter end of vol. 2 (B) contains a list of those who, according to the legal opinions obtained by the British Dental Association, had been falsely or fraudulently registered, which list was prepared and laid before the Medical Council by the business Committee of the Association. Here also are recorded those remarkable proceedings in which it is stated that legal opinions on a question of both public and professional interest, and purchased with money taken from the dentists' registration fund, were read in private, and acted upon without a word being heard from the petitioners and original movers in the matter. Why those opinions were considered so valuable as to be acted upon in such a summary manner, or how they were procured from a high public official without being argued before him in a proper and formal way, are things beyond our comprehension. But as these questions may ere long come to the front again, we consider it the duty of every dentist to make himself acquainted with the facts as recorded in those valuable little books.

A notable feature in vol. B is the account of receipts and expenditure of the Dental fund, in which the remarkable item of £598 10s. 8d. is charged to law expenses. The bulk of this large sum was no doubt spent on the process of examining each case of

alleged false registration laid before the Committee, by the business Committee of the British Dental Association. To any ordinary mind it seems that the examination of one or two cases might have sufficed, and that the onus of proving themselves right should have been thrown on those who, according to the existing means of information, had placed themselves in a false position. In the eyes of the legal adviser of the Medical Council this, however, was not sufficient. Every case was examined separately, and then each individual was supplied with a solemn invitation to come and support his case before the Medical Council. Now if this invitation had been issued in the first instance, all this enormous and useless expense might have been spared. But the folly of the proceedings did not end here, it occurred to the Dental Committee to get further legal opinion on certain points. The mystery attending their being obtained and used, has been already alluded to, and acting on these opinions the persons whose cases had been so carefully and expensively investigated, were pronounced as properly registered, and those who had withdrawn their names were invited to replace them on the register free of expense. We do not know whether the Dental Committee, or the Executive Committee, or the legal adviser of the Council is to blame for this unbusiness like proceeding, but we think if the lawyer and the Council had consulted together as to the readiest way of foolishly squandering the money of the Dental fund, they could not have devised a better plan than the course they have followed. Altogether the volumes teem with points of interest, but the space at our disposal is too limited to admit of a prolonged notice, so we conclude by again commending them to our readers and to the Dental profession at large.

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*The Dentists Register for 1881.* London: Spottiswoode & Co., Parliament Street, S.W. Price 3s. 4d.

The issue of the new volume of the Dentists' Register affords the Dentists their first opportunity of putting the Dentists' Act into force in the only direction in which it can operate with certainty. However many names may remain on the Register, and however much the sworn foes of the Dentists Act may try to discredit it as a legislative measure, they can never break down the

barrier which it has raised around the profession. They can never prevent the slow but certain action of time from clearing away every name which, rightly or wrongly, is now on the Register, and it will be for the Dentists to see that those names are replaced by the names of such men only as have proved their fitness and worth by passing the prescribed ordeals of study and examination.

As has before been pointed out, the Dentists alone can do this for themselves. In the two volumes of the Register now in existence, they have the means of ascertaining whether any of the new names which have appeared in public since the issue of the first Register, late in 1879, are on the 1881 Edition. Their absence from the new list will show that the assumption of a Dental designation is an infringement of the Act, and the fact should at once be made known to the Secretary of the Association.

The new feature in the Register for 1881 is the non-specification of the particular grounds on which a large—in fact the largest—number of the persons on the Register claimed the right of registration. There is no distinction between those who may hold high surgical degrees and those who have no degree whatever. These are all classed as having been in practice before the passing of the Dentists' Act. The only distinction made being in the cases of gentlemen holding the L.D.S. diploma. This extraordinary proceeding on the part of the Medical Council may yet be modified, but in the meantime the injustice done, more especially to those gentlemen who were long in practice and holding high professional positions before the L.D.S. diploma was established, and who did not consider it necessary to take that diploma, is obvious.

As time rolls on, the original qualification, or non-qualification, of the interlopers will become more and more obscure. This circumstance makes the first Dentists' Register of great value. Those who possess it should preserve it as the only means which will enable them to



know "who is who" in the future, and on what grounds those who will form the bulk of the registered Dentists for some time to come, found a place on the Register. We would, therefore, earnestly urge every Dentist to procure a copy for the purpose of reference, for although a few good practitioners may be expected to arise out of such a number, the seething mass of incompetence composed of Chemists and Druggists, Watchmakers, and Jewellers, and Hairdressers, &c., are not at all calculated either to raise the standard of Dentistry, or serve the public efficiently.

The first copy of the Dentist's Register will for ever afford a means of identifying all such, and enable the legitimate practitioner to guide his patients in the choice of a Dental adviser, and also to protect himself against those who approach him on professional grounds without the educational claims of a professional brother.

Besides the mere list of names which constitutes the Register proper, the Registrar has compiled a quantity of most useful information concerning the Medical Council, and tables of the number of Dental Practitioners holding different Dental Diplomas, and it is satisfactory to find that in his statistical summary there is a perceptible diminution in the number of names on the list, notwithstanding the liberal invitation of the Medical Council to those who had withdrawn from the Register, to have their names replaced without any extra expense. Looking at this proceeding, as we do, from outside the circle of that body, we cannot help wondering if the same wholesale liberality, and disregard of legitimate intentions and aspirations, would have been shown if the Register in question had been a purely medical one. Fortunately for the Chemists and Druggists themselves—who are the principle interlopers on our Register—as well as for the public at large, no such rough and ready solution of a difficulty has ever characterised the administration of the Pharmaceutical Act. Another advantage in the possession of the Register is that the practitioner has always at hand in a convenient and well-bound form, a correct and re-



liable Copy of the Dentists' Act, in every respect a copy of the official document. This alone could not be procured through a stationer under one shilling, so that the selling price of the new Register is very moderate, considering all the varied additional information it contains.

We earnestly hope that every member of the Association will possess himself of the new Register for 1881, and we are informed that the Business Committee of the Association have made arrangements for supplying members with a copy of the original Register for a nominal charge to defray the expense of postage.

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### Odontological Society of Great Britain.

THE ordinary monthly meeting of this Society, which took place on the 4th inst., was preceded by a special general meeting, of which due notice had been given, convened for the purpose of considering the following alterations in the Byelaws:—

“(1) That on and after November 1st, 1882, candidates for the resident, non-resident, and corresponding membership of the Society shall not be eligible unless they practise as dental surgeons, or are interested in the progress of dental surgery, and are also licentiates in dental surgery, or qualified practitioners of medicine or surgery, or possess such a diploma or degree as, in the opinion of the Council, shall qualify them for the membership of the Society.”

“(2) That wherever the words Dentist or Dentistry occur in the Bye-laws, the words Dental Surgeon or Dental Surgery shall be substituted.”

These resolutions having been recommended for adoption by the Council, were submitted to the Society by Mr. T. A. Rogers, the President, and Dr. Walker, one of the Vice-Presidents, acting as representatives of the Council. The former, speaking of the first resolution, said that ever since 1863 similar propositions had, from time to time, been brought before the Council, and in 1865 such

a resolution had actually been recommended by the Council at the Annual General Meeting, but was not adopted, and it had been revived once or twice since; on this occasion it had been under discussion in the Council since November. It would be seen that the resolution gave due notice of the date of the proposed change, sufficient to enable any member of the profession who did not hold a diploma, but who was now eligible for membership, to offer himself as a candidate. It affirmed that the licentiateship in dental surgery was the chief qualification for the membership of a dental society. It fully recognised the close connection between general and dental surgery, and it also invited the co-operation of all who were interested in the progress of dental surgery. A certain amount of discretion was necessarily left to the Council with regard to the recognition of various degrees and diplomas, English and foreign, as it would be very difficult to draw a hard and fast line.

Dr. WALKER said that as the Dental profession was now a body recognised by law, it was thought by the Council to be only right and in keeping with this position that the Dental Society of London should be composed of diplomatised men. At the same time its arms should be opened as widely as possible, so as to include all who had given evidence of scientific attainments and who were interested in the progress of Dental Surgery. The terms of the resolution had accordingly been made so comprehensive, that none could be excluded who had any claim to be recognised by the Society. He believed that the resolution would, if adopted, do much to raise the tone of the society, and that it would raise it in the estimation of its sister societies and in that of the other scientific bodies generally. He hoped, therefore, that it would be accepted unanimously.

Mr. COLEMAN said he supported the resolution on the ground of justice to the Dental licentiates; he thought that the society had not paid them the honour it should. To place qualified and unqualified practitioners on an

apparent equality was not giving a due recognition to the value of the Dental diploma.

After a few remarks from Mr. JAMES PARKINSON, who pointed out that there were already in the society 311 qualified members to 60 unqualified, or in the proportion of 4 to 1, the resolution was put to the meeting by the President and carried without opposition. The second resolution was then put to the vote and at once agreed to. The ordinary business of the meeting was then proceeded with.

Mr. HENRY SEWILL related a case in which paralysis of the left inferior Dental nerve followed the extraction of the lower wisdom tooth on that side. The tooth, which was extracted with considerable difficulty, was found to have large widely separated roots, the extremities of which were curved backwards. The patient did not discover the loss of sensation in the parts supplied by the nerve until she reached home; there was complete anæsthesia of the skin of the lip up to the middle line in front, and all the teeth on the left side up to the right central incisor were completely insensitive. Remembering the favourable termination of some similar cases which had been brought forward by Mr. Luther Holden some years ago, he had given a favourable prognosis.

Mr. BROWNE-MASON, of Exeter, said he had met with a precisely similar case in his own practice; sensation returned in about a month.

Mr. S. L. RYMER exhibited a plate, made of dental alloy, which had been swallowed during sleep by a man at Croydon. He was suddenly aroused with a feeling of imminent suffocation. After some unsuccessful efforts had been made to remove the plate, Mr. Horsley, surgeon to the Croydon General Hospital, by means of a pair of long curved forceps, removed the denture. The plate had become impacted at the lower part of the pharynx, just behind the larynx, and at the time of its removal, the patient was in a most critical condition from constant cough and urgent dyspnoea.

Mr. GADDES showed, for Mr. Kekwick, of Carlisle, a denture which had remained impacted in the pharynx of a woman, aged fifty-five, for ten hours, without giving rise to any very urgent symptoms. A surgeon was then called in, and he succeeded in extracting it.

Mr. ROBERT WOODHOUSE read notes of a case, reported by Mr. R. M. Theobald, of Blackheath, in which a large sequestrum, consisting of nearly the whole of the right side of the lower jaw, had been removed from a child, aged five years. She had made a good recovery, and the bone had been completely restored, but all the molar teeth on that side were lost.

Mr. ACKERY exhibited some teeth from two patients, who were the subjects of congenital syphilis, and read notes of the cases. In both the left upper central was distinctly notched, whilst the right upper central was perfectly well formed.

Mr. MORTON SMALE showed under the microscope some sections of a tooth which appeared to have become united to its alveolus by long ankylosis. On removing the tooth (a left upper canine), a large piece of the alveolus came away with it, and could not be separated. The sections had been sawn, and, then filed very roughly, but the bone still adhered to the tooth, and Mr. Smale thought that there was evidence of true bony union, at all events in places.

Mr. GADDES said the case reminded him of a precisely similar one which had occurred to himself. The tooth came away with a part of the alveolus so firmly attached, that he felt sure there must be bony ankylosis, but on making a section *and staining it*, he was able to demonstrate the fibrous tissue separating the bone from the tooth.

The SECRETARY having handed round some interesting specimens which had been sent up by Mr. Geo. Brunton, of Leeds,

The PRESIDENT called upon Mr. Stocken to read his paper "On the Value of certain Remedies used in the Constitutional Treatment of Inflammatory Conditions of

the Vascular Tooth Structures, and of Neuralgia arising therefrom."

The remedies to which Mr. Stocken especially directed attention, was chloride of ammonium, sulphide of calcium and gelseminum. He had selected these because the knowledge of their action was not so general as that of many other agents. He gave a full description of the therapeutic effects of these drugs, indicating the class of cases in which each would be likely to be most serviceable. His general conclusion was that in simple neuralgia of the fifth pair, gelseminum, either with or without aconite, would affect a cure, or at least give considerable relief. If the pain was due to congestion or inflammation of the pulp or periosteum, he would prescribe also chloride of ammonium. Whilst in chronic periostitis with suppuration, sulphide of calcium gave results which were in the highest degree satisfactory, cutting short the attacks in the most remarkable manner.

The PRESIDENT expressed the great satisfaction he had felt in listening to Mr. Stocken's paper. He had long been of opinion that the Dental surgeon should direct more attention to the constitutional treatment of the teeth and parts in close relation to them than was generally the case at present. In order to promote a knowledge of the value of constitutional remedies in Dental practice, he should be glad to see a chair of Pharmacology attached to every Dental school.

Mr. HUTCHINSON thought it was a mistake for Dental surgeons to undertake constitutional treatment. They should, of course have a knowledge of the various constitutional states, and of the remedies which were suitable for each, but he did not think that he ought to carry this knowledge into actual practice. He thought that in a case where constitutional treatment appeared to be desirable, the Dental Surgeon should ascertain who was the patient's medical attendant, and then, if necessary, he could write to the surgeon giving his ideas of the treatment which would be beneficial. He believed that the



practice which was now gaining ground would before long lead to strained relations between Dental practitioners and the rest of the medical profession, and in the country especially could not fail to be the cause of much unpleasantness between them.

After some remarks from Messrs. Coleman, Oakley Coles, Gaddes, Arthur Underwood, and others, the President replied that he certainly could not agree with Mr. Hutchinson in thinking that the Dental surgeon should confine himself strictly to local treatment, and should leave all else to the discretion of the medical attendant. At the same time he should be the last to recommend Dental practitioners to undertake the constitutional treatment of patients except in cases where they had a direct influence on the progress of the local disease. It was difficult to define the exact border line between medical and dental practice, but he thought that so long as there was any prospect of saving a tooth, the Dental surgeon was justified in using any means at his disposal, whether constitutional or local, with this object.

Mr. Stocken then briefly replied, and the meeting was adjourned.

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### Association of Surgeons Practising Dental Surgery.

At a meeting of this Association held on Wednesday, February 16th, 1881, Mr. THOMAS EDGELOW, President, made a few remarks on taking the chair. After thanking the Fellows for the honour conferred upon him, Mr. Edgelow alluded to the late meeting of the General Council, and stated that the result of its deliberations was the condition and claims of the Dental Register. The conclusions arrived at (were there no hope of obtaining an amendment or repeal of the Act or a distinct recognition of the status of the *surgeon* practising our specialty in the new Medical Act) could not but be regarded with dismay by all interested in the welfare of the profession. The Dental Act has now so signally failed as a practical measure that its very authors must, one would imagine, be heartily sick of it. It has even proved too comprehensive for them, and a great number of names, withdrawn from the Dental Register at the suggestion of the British Dental Association, are now to be restored triumphantly to the lists. In fact, he regretted to

state that of the five thousand and odd names that had been entered on this Register, *one* name alone has been expunged by the Council. It was also settled by counsel's opinion that the Executive and Dental Committees have no power to originate proceedings for the removal of any name from the Register, but that all initiation of proceedings to effect this object must rest with the General Medical Council itself. Another point to which he wished to direct attention was, that only the purely Dental qualification was allowed to appear on the Register. As long ago as December, 1878, one of the Fellows of the Association applied formally to have his surgical titles entered, but without effect; and now the refusal was pronounced by counsel to be only in harmony with the Dentists' Act, and should contain no reference "to other qualifications or practice in either Medicine, Surgery, or Pharmacy." Thus the Dental Register will be very simply and easily divided into two sections—one containing only the purely Dental qualification, the other no qualification appended at all. Thus the surgeons, and those without qualifications of any kind, are to be left indiscriminately mixed up, and the licentiates are to pass as the only true representatives of the qualified profession. But while our Association has never failed to recognise that the licentiate has a distinct advantage over the unqualified practitioner, and while it recognises and strives at the general elevation of the profession that undoubtedly has arisen from the higher state of Dental education resulting from the institution by the College of Surgeons of its examination in matters purely Dental, its very name and constitution would forbid it to sit down quietly without protesting against such an anomalous state of things. It will now become a matter for the personal consideration of those Fellows of our Association, whether under these circumstances it would not be desirable for them (should they not have done so), to withdraw their names from the Dental Register, and to content themselves with their position on the Medical Register. What action should be taken by this Association at the present juncture will receive the careful consideration of the Council, and whatever form this action may take, its action will certainly be to strengthen the bonds already happily existing between ourselves and the medical profession, of which profession we have always claimed to be an integral part; and we shall jealously watch, and to the best of our ability oppose any action, from whatever source it may emanate, that would seek to loosen ties which we trust and believe will prove to be indissoluble.

Mr. E. T. M. PHILLIPS of Liverpool then brought forward the following cases:—Case 1 showed the models of the mouth of a boy aged fourteen, from whom the two roots of the first right lower molar had been extracted, connected with which was a small cystic tumour, the result of an alveolar abscess. Cases 2 and 3 were examples of supernumerary teeth. Case 4 showed the altered appearance of the upper laterals from enlargement of the basal eminences. Case 5 was a very curious con-

dition occurring in the mouth of a young lady aged fourteen, where, on the left side, the canine and first bicuspid were missing, but were erupted and in normal position on the right. Case 6 was one of rare occurrence, and was an example of the transposition of the canine and first bicuspid. Mr. Phillips thought the explanation of this transposition might be accounted for probably in the early removal of the temporary canine, thus allowing the first bicuspid to come close to the lateral incisor, and that the permanent canine, when erupted, not having room, had descended between the two bicuspids. Case 7 was that of a child aged five, and showed the presence of the supernumerary teeth ranged in regular order with the others in the dental arch, and it was a question which should be considered as the supernumerary ones.

Mr. W. A. N. CATTLIN exhibited four upper Incisor Teeth, with absorption of fangs, which were loose, and extracted from the mouth of a young lady, aged only seventeen.

Mr. FRANCIS FOX brought forward an example of a Supernumerary Tooth, removed from the mouth of a boy, aged eight. The tooth was placed in the centre of the upper jaw, in the situation between the two central incisors, which he regarded as somewhat uncommon, and raised the question whether it was a supernumerary tooth in relation to the milk or the permanent dentition. His opinion was that it belonged to the permanent set, as such teeth, when occurring in connexion with the deciduous series, are generally found in the lower jaw.—*Lancet*.

## Odonto-Chirurgical Society.

*Annual Meeting, held Friday, 11th March, 1881.*

Mr. WALTER CAMPBELL, L.D.S., Dundee, President, in the chair.

The minutes of the previous meeting were read and approved.

The following gentlemen were balloted for and unanimously elected:—Mr. Joseph Holland, L.D.S. Ed. and Eng., and Mr. John Gourlay, L.D.S. Glas.

After which Messrs. James Shiach, of Elgin, and Mr. James D. Grant, Jersey, were nominated for membership.

### ELECTION OF OFFICE-BEARERS.

The PRESIDENT said that the Council proposed for election as office-bearers for 1881-82 the names on the billet. Mr. James Rankine Brownlie, Glasgow, had requested his name to be withdrawn as a Vice-President, and they proposed in his room, Dr. Joseph Walker, London, whom they all knew. He had taken a

considerable interest in the Society, and had greatly interested himself in their work. The list of office-bearers, as amended, was as follows :—

*President.*—J. Smith, M.D., F.R.C.S.Ed.

*Vice-Presidents.*—A. Wilson, L.D.S.Ed., and Joseph Walker, M.D., L.D.S.Eng., London.

*Treasurer.*—Matthew Finlayson.

*Secretary.*—W. Bowman Macleod, L.D.S.Ed.

*Curator and Librarian.*—G. W. Watson, L.D.S.Ed.

*Council.*—Walter Campbeel, L.D.S.Eng., Dundee; Leon J. Platt, L.D.S.Ed., Stirling; Malcolm MacGregor, L.D.S.Ed.; Austin Biggs, Esq., Glasgow.

The above list was unanimously approved of.

#### TREASURER'S REPORT.

Mr. ANDREW WILSON gave in the Treasurer's report. He stated that the revenue last year amounted to £42 8s., and the expenditure to £39 4s., leaving a balance in the Treasurer's hands of £3 4s. The reserve fund of the Society amounted to £90 7s. 8d. last year. Of that sum, £10 was the value of the Museum case, leaving a deposit in the bank of £80 7s. 8d. He thought that the Society was progressing very favourably. The accounts had been audited by Mr. Cormack.

#### CURATOR AND LIBRARIAN'S REPORT.

Mr. WATSON said that he had used up all the material he had received for the Museum, and he would be very glad to receive contributions from any of the members. He had to state that he had received six volumes of the "British Journal of Dental Science" from Mr. James Taylor, L.D.S.Ed., Dewsbury.

The SECRETARY thought that the Council might instruct the Librarian to procure copies of works on Dental Science that they did not already possess, and charge the same to the Society.

The PRESIDENT suggested the appointment of a committee to expend whatever sum might be considered necessary on such works.

A committee, consisting of Dr. Smith, the Curator and Librarian, the Treasurer, and Secretary, were appointed to expend a sum not exceeding £20 in obtaining works on Dental Science.

The SECRETARY said he had received a letter from the Presi-



dent of the Odontological Society, stating that he had instructed their Secretary to exchange their Transactions with this Society in future.

#### THE PRESIDENT'S VALEDICTORY ADDRESS.

The PRESIDENT delivered the retiring address, as follows:—Gentlemen, as the business of the session is now over, and my presidential reign has come to an end, perhaps you will permit me, before resigning the chair, to offer a few parting words. In the first place, I sincerely thank you for having elected and re-elected me to be your President, an honour which I have esteemed most highly. To the members of Council, for their forbearance and ready support at all our meetings, I tender my most cordial thanks; and more especially would I thank the Hon. Secretaries for their zeal in carrying on the work of the Society. I assure you the work of the Secretary is more important and laborious than one outside the Council can readily imagine, and the prosperity of the Society depends in no small measure on his ability and zeal. It is only two years since we became possessed of a home which we could call our own. Since then we have made considerable progress in various ways. Our members have increased by one-third, and our funds are in a correspondingly prosperous condition, as shown by the Treasurer's report. We have also acquired a Library and Museum, which, although in a forward condition, are still in need of further contributions. I readily avail myself of this opportunity to remind members that our excellent Librarian and Curator, Mr. Watson, will be most thankful to receive the smallest donation. I would urge every member, both ordinary and honorary, to look over his shelves and his cabinet, and see whether he cannot find some book or object of interest which he might spare to the Society. The Dental School and this Society are intimately connected. They have one home, as they have one object—the diffusion of correct principles, as the result of research and practice in Dental Science, so that donations to the Museum and Library are used for educational purposes. For this the oldest volume and the newest are alike valuable. Gentlemen, we are now by law recognised as a profession, but we need not shut our eyes to the fact that it will take some time ere we be recognised as such by the general public. The more we practice a kindly professional feeling amongst ourselves, the sooner will the public be led to recognise



our true standing. I know of nothing more likely to cultivate a professional spirit amongst Dental Surgeons than the frequent intercourse which such societies as ours affords its members. Associated action, in dental as in other learned societies, is undoubtedly a power in developing a high toned professional spirit. It fosters and encourages that zeal to find out the working of nature in health and in disease, and seeks to spread that knowledge amongst its members for the benefit of mankind. This intercourse begets also a spirit of charity and forbearance in judging of the operations of others who differ from ourselves in their method of practice. I consider it a matter of regret that the Medical Council, in their recent action, have retained on the dental register names which, according to the ordinary understanding of the term *bona fide*, should have been erased; but to prevent the entrance into our Society of such, who have neither the knowledge nor the spirit of professional men, we have the old fashioned and powerful black ball. We may, however, console ourselves with the knowledge that this unfortunate condition of things is daily working its own cure, and that now no name can be added to the register unless the candidate has acquired the necessary fitness. It took twenty years, at least, of steady, persevering work, by a few leading men, to prepare material for that wall which the Legislature three years ago consolidated by the Dental Act. We may be sure, gentlemen, that this protective measure may be strengthened, but will never be broken down. I am forcibly reminded of the truth of a remark made to me by our esteemed and acknowledged head, Mr. Tomes, as far back as 1862, when, speaking of American dental colleges, that with us institutions take root slowly but surely. Patience and love of work for its own sake is a characteristic of the English, and not less so of the Scotch. The lecturers at our Dental School, educated as all must now be, and the facilities for work such as modern science can render, have a wide and highly interesting field for research. The able and instructive paper read at our last meeting, and also the paper read to-day (and I do not think that I am going out of my way in referring to the able address delivered at the opening of the session), as specimens of what we may expect from them in the future, and from the rising dentists, which I am sure our Society will take care to encourage. Our papers, casual communications, and discussions thereon, have all been profitable and interesting. I would here repeat what I said on a

former occasion, that from our conversational meetings we derive great, if not the greatest, benefit; and I consider the Society has acted wisely in having at least one of these in each session. I trust, as our members have increased so largely, that we may soon be in a position to have a reporter present at all our meetings, that our absent members may derive all the benefit possible from our discussions being fully reported. There is one other subject, and a sad one, to which I would refer, viz., the loss we have sustained by the death of Dr. Roberts, who at one time filled this chair. The deep interest he always took in the Society's doings since its formation made him well known to us all; and I am sure, while giving expression to my own feelings, I also express the sentiments of every member. We esteemed him highly—indeed, we loved him. His genial, happy countenance will never be effaced from our memory. Let us hope that we may meet him again under a happier and better condition of things. May he rest in peace, and awake to a joyful resurrection. And now, gentlemen, I conclude, and with pleasure resign the chair to Dr. Smith—one who, I know, will guide us with great ability and energy; although he is a young member, he is not a young man, and his wide range of knowledge and his great experience will be at our service while he presides over our meetings. I cannot express to him and to you how much pleasure it affords me personally to know that he is to fill the chair which I now resign.

Dr. SMITH then took the chair amidst applause. He said he did not need to say that he felt very much the high honour that had been conferred upon him in electing him President of the Society. He only trusted that the office-bearers, who had served under the past Presidents so faithfully, would bear with his shortcomings. He knew that those who had occupied the chair before him had had a longer experience of the Society than himself, and he had no doubt whatever that they would be ready to guide him. He was glad to see the very valuable papers, judging from what he had heard, that were brought before the Society; and he had no doubt that when a number of volumes of the Society's proceedings were collected, they would include some of the most important contributions in existence, in connection with Dental Science. He had to thank them for the honour they had conferred upon him, and he would endeavour to do the Society all the credit he possibly could.

Mr. HARRISON, Sheffield, said he had had great pleasure in

being present, and to have heard such an able paper by Mr. Wilson, and such a hearty, healthy valedictory by Mr. Campbell. He had much pleasure in proposing a cordial vote of thanks to the retiring Office-Bearers.

Mr. CAMPBELL briefly acknowledged the compliment, and the proceedings terminated.

### Harveian Society of London.

THIS Society held its annual meeting on Thursday the 6th ult. Dr. Broadbent proposed the suspension of the law forbidding the re-election of the President for a second year, in order that during the Congress of 1881 the Society might avail itself of the prestige and extended reputation of Mr. Henry Power. Mr. Eastes, in seconding the proposition, remarked that the Society was in its fiftieth year, and that the Council had decided to ask the loan of the South Kensington Museum for its *conversazione*, in order to duly celebrate the occasion. The proposition was received with acclamation. After some other business, the President delivered his address. After thanking the Society for his re-election, he adverted to the enormous increase of medical literature, to the improved status of medicine and medical students, he endorsed Sir J. Paget's view that vegetable pathology should be included in the ordinary medical education, and added that the diagnosis and treatment of diseases in the lower animals would be a good introduction to human medicine and surgery. Mr. Gant proposed a vote of thanks to the President, and the meeting separated.

### National Dental Hospital.

THE Annual Meeting of subscribers of the National Dental Hospital was held recently at the Hospital, 149, Great Portland Street, W., when the President, Lord ENFIELD, presided. The reports of the Committee showed that the Institution was progressing in every way, the patients having increased to 13,146, and the number of cases treated to 17,716. They announced that a Grand Evening Ballad Concert would be given on the 24th of May next, at St. James's Hall, when the following distinguished artistes had amongst others kindly consented to give their services:—Mrs. Osgood, Miss José Sherrington, Madame Jenny Pratt, Miss Jessie Royd, Miss Thorndike, Madame Enriquez, Madame Mary Cummings, Madame Helen d'Alton, Mr. William Shakespeare, Mr. Vernon Rigby, Mr. Bernard Lane, Mr. Redfern Hollins, Mr. Dudley Thomas, Mr. M. Maybrick, Mr. Lewis Thomas, Mr. Herbert Thorndike, Mr. James Sauvage, Mr. Frank Ward, and it was hoped that the sum

it would realise would cover the expenses of the extension of the premises, which was just being carried out, on account of the increasing number of patients and students. The special attention of the subscribers and the public was drawn to the great use of the Hospital as an educational establishment, fulfilling the object of the recent legislature for regulating the practice of Dental Surgery, and it was announced that the number of students attending was largely in advance of those of former years.

Votes of thanks having been accorded to the Committees and Officers of the past year, and those of the present year having been elected,

Mr. Oakley Coles proposed a vote of thanks to the chairman, which was carried by acclamation. Mr. Coles said that there were many noble-men who had given their names to institutions similar to theirs, but they did not always take so much personal trouble and interest in the welfare of hospitals as his lordship had done in that of the Dental Hospital since its establishment. They regarded that interest as a proof that the Charity was doing valuable work.

The Chairman, in acknowledgment, said that he considered it to be the duty of the presidents who gave their names to institutions such as the Dental Hospital to take some pains to see that they were properly conducted. During the 20 years he had been president of the Institution he had made a point of either being present at the annual meetings or attending at the Hospital occasionally to examine its books, and to see if it had been managed efficiently and economically, and he had no hesitation in saying that it had been so managed. As to the kindness and attention of the medical staff, a case came under his notice the other day of a young woman who had enjoyed the benefits of the Hospital, and she had borne the highest testimony to the kind treatment received at their hands. As the Hospital was founded to benefit the poor he hoped that persons who were in a position to pay the proper fee would do so, as it was not right to impose upon the honorary medical staff, who gave their time and skill to the poor and not to those who could afford to pay for advice. He concluded by stating that he had always taken a deep interest in the work of the Hospital, and had always been able to say, in reply to questions put to him about the Institution, that it was conducted in an admirable manner, and that the medical staff had been most kind to the poor patients who came under their care.

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## Dental Hospital of London.

### HOSPITAL REPORTS.

CASE I. *Dresser*: Mr. W. HERN.—From congenital causes the temporary laterals, canines, and first molars in the upper



maxilla, and the lower incisors and first molars in the lower maxilla were absent.

E. R., male child, æt. 4 years. Fairly healthy. Had when younger tendency to rickets, but he had been put in high boots, had been bathed in sea water, and had often a change to the country, which had cured him. His brother, two years old, had normal dentition. Parents healthy.

The two upper teeth, which are denuded of enamel round the necks on the labial surface, appear to be central incisors; they have, however, a slight resemblance to canines, being somewhat pointed. These teeth were erupted at twelve months, the molars a little later; the upper ones in each case before the corresponding lower one. Incisors began to blacken soon after eruption. The gum of the lower jaw from the temporary molars on each side presents a sharp and firm ridge, narrow throughout, resembling that of a nine months' fœtus. Molars normal and fully developed.

### Correspondence.

TO THE EDITORS OF "THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

GENTLEMEN,—During the past year I have received many intimations from Members in various parts of the country, saying that certain persons were practising Dentistry whose names were not on the Dentists' Register. The course which I felt bound to pursue in such cases has sometimes given rise to a considerable amount of ill-feeling on the part of the persons complained of, and in all cases to a great deal of trouble, and some expense to the Association. The solution of the difficulty in most instances being that the persons had been registered since the publication of the first Register. A reference to the new Register will now make such circumstances clear to the mind of every one, and in cases of complaint enable me to act with promptness and confidence in all cases brought under my notice.

Truly yours,

JAMES SMITH TURNER, *Hon. Sec. B.D.A.*

### Annotations.

#### THE DENTAL REGISTRATION CLAUSES.

SIR,—Mr. Tomes appears, in his letter of March 5th, to entirely fail to make out his case against the Medical Council; in fact, from his own



showing, it is perfectly clear that the Medical Council, in the first instance, under Dr. Rolleston's scheme of examination rules, desired not to be called upon to originate a scheme; and that, under Dr. Quain's subsequent motion, they again desired that the Bill should be brought into conformity with the Lord President's Bill, which, as you have already quoted, contained a clause enabling the Dentists' Association, or any person, to submit a scheme for examination, licensing, and registration; and this view they adhered to after the communication of Mr. Jenkyn's letters on July 1st, since Dr. Quain's motion was carried on July 4th. Mr. Tomes may, if he please, of course, repudiate all responsibility for the acts of Mr. Jenkyns; but it is generally understood that a parliamentary draftsman only carries out instructions given to him; and it is perfectly clear that, if Mr. Tomes and Sir John Lubbock had any responsibility in respect to the Bill—and I do not understand that they disavow it—they are the persons responsible, conjointly with the Government, for the defects in the Act now complained of. These defects were foreseen by some of the members of the Medical Council, and would not have occurred had the resolutions on the subject, passed by the Medical Council on July 4th, been respected by Mr. Tomes and Sir John Lubbock, and carried out by Mr. Jenkyns. The Bill was spoiled by being prematurely hurried through the House of Lords; and, in presence of the documents here quoted by Mr. Tomes, it is perfectly futile to blame the General Medical Council in a matter in which they are obviously quite blameless. They are responsible for the introduction of the inefficient clauses of which complaint is now made. The Medical Council, through its President, Dr. Acland, might possibly at the last moment have interposed a veto, on the ground that the Bill was not now drafted in accordance with their resolutions or their wishes; but it hardly lies in Mr. Tomes's mouth to complain that they did not stop him and Mr. Jenkyns from having their own wilful way. The profession may complain, and the dentists; but Mr. Tomes and his allies are the offenders; and the Medical Council is, on his own showing, only blamable for not having at the last moment interfered to stop the mischief which he brewed with the Government aid.—I am, sir, yours faithfully,

DENS SAPIENTIE.

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THE feeling of the medical profession in reference to the Dentists' Act and the Dentists' Register, and especially in reference to the readiness with which the General Medical Council undertook the administration of the Act, has always been one of great humiliation and regret. As an illustration of this, we may refer our readers to Mr. Cattlin's address in another column. That feeling will be intensified by the Report of the proceedings of the Council at its one day's sitting of Thursday, the 3rd inst. The Council, it will be seen, was entirely in the hands of the

lawyers. In Mr. Simon's apt words, "they bowed unreservedly to legal opinion, but he hoped the resolution would be so framed as to show that the Council was simply acting mechanically in obedience to the law." This "bow to the law" is indeed unreserved. Let us see what were the doctrines bowed to so meekly and without an attempt at resistance by the distinguished gentlemen constituting the Medical Council. Our readers will remember the deluge of Dentists, or professed Dentists, which succeeded the passing of the Act. The number registered on August 1st, 1879, was 5289, double that which was contemplated by the gentlemen who so confidently undertook this piece of legislation. Of this number 483 had licences in dental surgery from British Medical Corporations! The great majority were admitted to the Register on Section C of Clause 6, which entitles to registration *any person who, at the passing of this Act, was bonâ fide engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy.* It was over the use and construction of this clause by the Council that such humble and mechanical "bows" had to be made by Mr. Simon and his colleagues at the late meeting. It is difficult to say whether the persons registered by the Council or the Council itself were in the greater flutter. The time of meeting was, of course, most inconvenient. The cost of meeting we know, on the authority of the Treasurer, will be four or five hundred pounds. But all this had to be disregarded to settle the great questions arising out of Section C of Clause 6, which the President said affected the accuracy of the Dentists' Register in over five hundred cases. What were these questions? For a full answer to this we must refer our readers to the Report of the meeting, contained in our present impression. We will only here say that they were vital to the respectability of the Register. They were of this kind: What constitutes practice *bonâ fide* as a dentist? Is a man justified in declaring that he is in *bonâ fide* practice as a Dentist when, in reality, he is only acting as an assistant to one who is so? Is "pulling out" teeth alone, by the hundred in the year, enough to constitute practice *bonâ fide* as a Dentist? Can a man be said to be in practice as a Dentist whose primary business is that of hairdresser, his secondary business that of tobacconist, and his third function that of tooth-drawing? Can a man be said to be in practice as a Dentist *separately* who practises it in association with such businesses as the above? Can a man be said to be in the practice of Dentistry in conjunction with the practice of medicine, surgery, or pharmacy whose name is not to be found on the Medical Register, the Pharmaceutical Register, or the Register of Chemists and Druggists? Finally, is the Registrar acting wrongly in putting into the Register a column describing the calling in connexion with which an applicant said he was practising Dentistry? These were great questions affecting the respect to be paid by the medi-

cal profession and by the public to the Dentists' Register. We regret to say that the answer given to them all by counsel was exactly the opposite of that which, we presume, the framers of the Dentists' Act hoped and expected, and, worse still, that the Medical Council accepted with scarcely any demur the decision of counsel. Thus the Register is to remain unpurged. The Council have resolved to keep on the names of hundreds of persons which have been challenged by the "British Dental Association," and they have the appearance of accepting the doctrine that men are to be considered in practice as Dentists who were essentially hairdressers, and in practice as chemists, in spite of not being on any legal register of chemists, and not even in business as chemists.

This is, indeed, a humiliating position, for a great Council of Medical Education to have come to. It has revived the race of barber-surgeons, which we had thought extinct. Mr. Simon somewhat ingeniously, and with a dash of severity, threw the blame of all this on the promoters of the Dentists' Act, who, he said, no doubt thought they were securing that the new race of Dentists were to be men in *bonâ fide* practice first, either as Dentists *separately*, or actually registered as Dentists, in connexion with medicine, surgery, or pharmacy. But are Mr. Simon and Dr. Quain quite right in shifting the blame of all this carelessness on the promoters of the Dentists' Act? Is it not a fact that the clauses under which the deluge has happened were taken from the Lord President's Bill? Is it not a fact that this was done at the suggestion of the Medical Council? and that the Medical Council gave to this great subject only a fragment of time, and in this fragment expressed its willingness to accept the Bill, containing the clauses, amongst others, which have worked to the production of such a loose and worthless Register. The Council may well bow, not only mechanically, but morally, under such a responsibility.—*The Lancet*.

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#### NEURALGIA.

*Aconitin*.—Prof. Gubler states that he has never met with a case of neuralgia of the fifth nerve, even *tic-doloureux*, which failed to yield to aconitin. A man on whom Nelaton had performed neurotomy for violent neuralgia with only temporary relief, was entirely cured by aconitin, of which he took 1-14th of a grain. Hottots' preparation of the nitrate of aconitin is the best to use, the dose is 1-140th of a grain (which contains 1-280th of a grain of aconitin); when this quantity fails to produce the desired effect the doses may be increased up to 1-12th of a grain. Heart disease absolutely counter-indicates the drug.

*Sulphate of Copper*.—M. Féréol read a paper before the Académie de Médecine, in Paris, upon the good results obtained in cases of neuralgia from ammoniacal solution of sulphate of copper. He only quoted six cases, but they were all of them obstinate and of long standing, presenting all the characteristics of *ticdoloureux*, and having resisted all other thera-

peutic agents succumbed instantaneously to sulphate of copper. The usual dose was 0.10—0.15 per day which could be raised gradually to 0.30—0.50. It could be given in pills, in which case it was found necessary to break up the dose into 8 or 10 pills, one of which was to be taken every hour or two, preferably at meals. The sulphate should be continued for 12 or 15 days to prevent a relapse. In this connection it may be well to notice that Dr. R. Riddell has published some observations on the effects of *croton chloral hydrate* with regard to its power of paralysing the peripheral terminations of sensory nerves. He has found it act like a charm in tic-doloureux, though generally useless in pain arising from carious teeth; on one occasion after administering two-10-grain doses he was able to extract a tooth for a nervous young lady without any pain, the dose must be 5 grains 3 or 4 times a day.

*Gelseminum*.—In cases of trigeminal neuralgia, Dr. Massini gives m. xx. of tinct. of gelseminum every half hour up to three doses. The first dose gives relief, after the second, pain subsides. Dr. Massini has never found it necessary to exceed 60 minims, and has only once had head symptoms. It sometimes relieves pain after the “stoppage” (*sic*) of a carious tooth, but is no good in periostitis. The remedy may be repeated several days.

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#### ODOFORM.

In the *Revue des Sciences Médicales* (October, 1880), there is a notice of some excellent results obtained by Dr. E. Heinrich Kisch in the treatment of obstinate ulceration of the female generative organs with Iodoform. In ulceration of the os uteri, the difficulties which present themselves are not dissimilar to those met with in the mouth; the great number of bacteria, and the apparent impossibility of maintaining an aseptic condition of the parts. Dr. Kisch has tried Iodoform with singular success, he employs a mixture of 1 part of Iodoform, 10 parts of Glycerine, and 6 parts of Ess. Ment. Pip., he soaks a pledget of wool in this fluid, and applies it per vaginam every night, and in 50 cases he has found the result to be a speedy cure. The Iodoform is absorbed, as its presence is traceable in the urine 30 hours after the application.

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#### JOURNAL OF ANATOMY AND PHYSIOLOGY, JANUARY, 1881.

*Varieties of the Pterygoideus Proprius muscle*.—Dr. Shepherd, of Montreal, among some interesting abnormalities which came under his notice in the McGill University dissecting room during the last year, gives the following account of the Pterygoideus Proprius: “Superficially, it is continuous at its origin with the under surface of the temporal muscle, but its chief and deep origin is from the pterygoid ridge of the sphenoid, and part of the great wing in common with but superficial to, the small upper head of the Ext. Pterygoid. From this origin the muscle curves downwards and towards the Buccinator muscle, having along its inner



border a well defined tendon, and is inserted by a broad aponeurosis into the alveolar process of the superior maxilla, opposite the molar teeth, and into the pterygo-maxillary ligament. Some of its muscular fibres also became blended with the Buccinator muscle. In its course it crosses the external and internal Pterygoid muscles. The muscle is somewhat fan-shaped, three-quarters of an inch broad, and two inches long; from its under surface, in addition to the above attachment, it sends a small muscular fasciculus below the Internal Pterygoid to be inserted into the tip of the hamular process of the internal pterygoid plate, its action is evidently to assist in closing the jaws."

Dr. Shepherd is inclined to believe that this muscle is more frequent than is supposed, but that it is generally mutilated in dissection before its presence is observed.

In the same paper Dr. Shepherd gives an account of a case of *congenital absence of the soft palate* in a man of 40 years of age—the mucous membrane of the hard palate was directly continuous with that of the posterior nares. The maxillæ and teeth were well developed and perfect. The only palate muscle present was the tensor which was attached to the hamular process. The occupation of the individual had been that of preacher, so that it is fair to assume that speech was tolerably perfect.

ETHNOLOGICAL VARIATION IN THE LOWER JAW, BY L. RENARD,  
CHIRURGIEN DE PARIS, 1880.

M. Renard, after giving an account of the present state of knowledge with regard to the lower jaw, comes to the following conclusion:—

From a consideration of the development of the lower jaw in various races, and at various periods of life, it is easy to see that race varieties result from variations in degree of development. Throughout the period of development it is the teeth that determine and direct its course. The teeth do not take possession of pre-existing crypts, but the crypts grow up to surround the teeth, and disappear with them. All morphological modifications of the jaw depend upon the alveolar portion for their cause.

The differences do not begin till after the first dentition, the negro infant is not prognathous. As soon as the permanent germs appear, the temporary set are gently pushed forwards, together with their alveolus, the degree of this pushing forwards regulates the variations of the inclination of the symphysis. Prognathism, orthognathism, and opisthognathism are therefore exactly proportionate to the number and size of the teeth.

The thickness of the bone depends upon the teeth, but not its breadth (from side to side), this latter only varies with the cranial diameters. The modifications depend mainly upon the *rapidity* of the complete evolution of the permanent set. In negro races the wisdom teeth are early



developed, before the ossification of the jaw is finished, and therefore while it is still capable of adapting itself without inconvenience or crowding to their presence. The wisdoms are finely formed teeth, sometimes with five cusps; and hardly ever is their eruption attended with those accidents and derangements so common in Europe. The negro jaw is, therefore, perfect in its development as contrasted with the European jaw with its tardily erupted wisdoms, for which it can so often hardly find room at all.

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#### THE ABATEMENT OF SMOKE IN CITIES.

Under this title a leader appeared in a recent number of the *British Medical Journal*, giving an excellent account of the steps which have been taken during the past year by those interested in the health of London, to mitigate the ever increasing evils arising from fog. Mr. Ernest Hart, President of the National Health Society, called the attention of that Society to the serious aspect of the question, and the assistance of Professor Chandler Roberts, of the School of Mines, was obtained to investigate the fuel and combustion in ordinary dwelling places, and to examine means for their improvement. So far the fog was being attacked from a health point of view. Later in the year, Miss Octavia Hill joined the crusade on behalf of the Kyrle Society, who considered the fog nuisance from an æsthetic point of view as subversive of the beauty and happiness of London life. A Committee was formed of members of both Societies, and the further aid of Captain Galton, Dr. Siemens, Professor Frankland, and other experts, was at once obtained. During the recess, the matter was still further ventilated in the *Times* by Dr. Alfred Carpenter, of Croydon.

The Committee soon discovered that there were a great many means at present in use for consuming bituminous coal with much less smoke production than the common grate, in grates, closed stoves, steam ships, and factory boilers, and they became convinced that in every branch of industry it would be possible to obtain complete smoke consumption not only free of expense but even with economy. In Messrs. Hanbury & Co.'s large brewery it was computed that £80,000 had been saved during the last 20 years by a smoke consuming apparatus. An exhibition has been arranged for at South Kensington of the various apparatus which ingenuity may suggest for this object, under the guidance of the best practical scientists of the the day.

A meeting was recently called at the Mansion House, to consider the question. Mr. Ernest Hart informed the meeting of the progress of the movement. The First Commissioner of Works, Mr. Shaw Lefevre, stated that the deterioration of London air of late years had rendered it impossible to grow roses in Kensington Gardens, that the public buildings of London were suffering constant decay from the corrosive action of sulphurous and acid products of the imperfect combustion of

bituminous coal. It was stated that the smoke fogs of last year had actually raised the mortality by *forty per cent.*, and produced an excessive mortality, due to respiratory complaints, which equalled the ravages of a *cholera epidemic*. In a less direct way, it was pointed out, that the health of London suffered from actual deprivation of the sun's rays, and the extent of this deprivation was startlingly illustrated by the fact that a wax bleacher had been compelled to remove his bleaching ground from Shepherd's Bush to Hammersmith, because in the former place the sun had not sufficient power to bleach his wax. The plants at the Botanic, and the animals at the Zoological Gardens, had one and all suffered in health from loss of light. To us as Dentists, this movement has another important claim upon our support and sympathy, we are dependent upon sunlight not only for our health and happiness, but actually for our bread and butter, the injurious effect upon our eyesight of working at our delicate manipulations by artificial light cannot be overestimated; it is, therefore, with great satisfaction that we learn that Mr. Cubitt has given notice in the House of his intention to move for a select committee to consider this life-destroying and health-deteriorating nuisance, and we wish most heartily success to the energetic philanthropists who are organising this crusade against King Fog, and will accord them all support and assistance that lies in our power.

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### Appointment.

At a meeting of trustees of Anderson College on the 22nd inst., Mr. David Taylor, M.B., C.M., L.D.S., &c., was appointed Lecturer on Dental Anatomy and Physiology, in room of the late Mr. J. Crooks Monson, L.D.S.

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### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.P.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

THE JOURNAL  
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BRITISH DENTAL ASSOCIATION  
A  
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## ASSOCIATION NOTICES.

The present issue of the Journal of the British Dental Association contains Sixteen extra pages.

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Members of the Association can have a copy of the Dentists' Register for 1879-80, by enclosing six penny stamps, with name and address in full, to the Honorary Secretary, James Smith Turner, Esq., 12, George Street, Hanover Square, London, W.

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# THE JOURNAL

OF THE

# BRITISH DENTAL ASSOCIATION

A

*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. V.

MAY, 1881.

VOL. II.

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THE reported proceedings of the Medical Council will be read with unusual interest by those who realise the difficulties which attend the development and consolidation of a new profession, such as has been created by the Dentists' Act out of materials too diverse, the prophets told us, to admit of concretion. Notwithstanding all the impediments arising out of pre-existing conditions and consequent upon wilful obstruction, the desired end has been attained. All the conditions of education and registration have now been determined. With the exception of apprentices articulated before the passing of the Act, the Register was closed to all but Licentiates, on the first day of August, 1879. But the Act provided for the entry of qualifications additional to those necessary to, and upon which registration has been already obtained, subject however, to their being granted by a Medical authority, and to their indicating in some respects, a higher degree of knowledge than



sufficed to obtain the Licentiate'ship. The question arose whether Medical qualifications, merely as such could be entered in the Dentists' Register, and upon the bare question suggestive of a negative being put to Counsel, the answer returned was—No. And upon the authority of this opinion, the Medical Council excluded the only additional qualifications. A more close examination of the Act soon led to the opinion that the question of what constituted an additional qualification could be determined only by persons conversant with the Dental and Medical courses of study, and with the qualifying examinations, and that lawyers could have no such knowledge. In fact it became fully apparent that it was the distinct duty of the Council itself, as the appointed and fully competent authority, to determine the question. If it could be shown that a Surgical qualification indicated a higher degree of knowledge of the principles and practice of Surgery than that required by the Licentiate'ship, a case for its entry would be established; for the clause in the Act does not require that the knowledge shall be a higher degree of knowledge in each and all of the subjects comprised in the Dental Curriculum. A higher degree in any of them if attested by a diploma from a Medical authority would satisfy the prescribed conditions.

Every Member of the Council is fully aware that the Dental and Medical Curricula proceed upon the same lines, up to the point, when with a due consideration of time and cost, it becomes necessary to diverge in favour of the special subjects, a full knowledge of which, including the acquisition of manipulative skill, are an absolute necessity to the competence of the Dental practitioner. It is reasonably required that the Dental shall not be more costly in time or in money than a Medical qualification, and without divergence this condition could not be ob-

served. The few may have the opportunity and the will to continue on in the educational lines, till they have attained a Medical in addition to the Dental qualification, and to contend that they have not in so doing attained a higher degree of knowledge available in the practice of Dental Surgery, would be an outrage upon common sense, and to refuse its recognition would be an injustice to the whole Dental profession. The subject, as will be seen by the report, has been very fully and ably discussed.

The Council determined by a majority of 13 to 5 in favour of the registration of Surgical qualifications as additional qualifications in the Dentists' Register. Not without opposition, however. Our detractor, Dr. Quain, who in culpable ignorance at a previous meeting of the Council, defined Dental practice as little more than tooth drawing, took on the present occasion a very active part in discouraging the further development of education in Dental Practitioners. It is unfortunate that a willing Member of the Dental Committee of the Council should be a declared advocate of ignorance, citing as a supporting example of his views, the late Mr. Cartwright, whose professional attainments no competent judge would have ventured to question.

This important decision of the Council will set at rest a feeling of soreness, not to say antagonism, concerning the relations of the Dental Licentiate to the Membership of a Surgical College. The relative position is now authoritatively determined. The one is the necessary foundation, the other is now acknowledged as the optional superstructure.

The Dentist must take the Licentiate which ensures to the public his professional competence, and secures to him professional status privileges. The Membership if taken, testifies to his further culture, and in so far is an acknow-

ledged honour. It does not, however, add to his privileges secured by the Act, but its possession may, like the Fellowship of a college, be made a condition to holding certain appointments by the Bye-laws of an institution in which a Dental officer forms part of the staff.

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### Midland Branch British Dental Association.

THE Annual meeting of the Midland Branch of the British Dental Association was held at the Medical Institute, Liverpool. Mr. Campion, President, in the Chair.

The President's address, with other particulars, will appear in our next issue.

The Chairman called upon Mr. L. Matheson to read his paper on—

*The Use and Abuse of some of the Medicaments employed in the local Treatment of Diseased Dental Pulp and Alveolar Abscess.* ✓

In dealing with this subject, I have little if anything, to offer you which, as regards the use of drugs or the modes of applying them, can lay claim to novelty or originality. But my object in preparing this paper has been, not so much to bring before you anything new, as to stimulate discussion by taking up one or two points of general and practical interest in connection with some of the drugs commonly used in the treatment of Dental disease. In the consideration of some of these therapeutic agents, one must needs touch upon the various conditions under which their use is called for, upon the operations to the success of which they are essential, and upon the various modes in which they may be applied; and on all these points, every dental surgeon possesses experience and opinion. To promote, if possible, the mutual interchange of such individual thought and information, is my aim in broaching a subject with the many sides of which our everyday practice makes us all familiar. And, feeling that the best way of eliciting the opinion and practical knowledge of others is simply to state one's own, I have, for the most part, limited what I have to say to facts, the observations of which have come within the range of my own experience.

The medicaments of which I shall speak are some of those employed, *first*, in the restoration to a sound condition of diseased dental pulps, and in the preservation of their vitality and health; *second*, in the devitalization and removal of diseased pulps; and *third*, in the treatment of alveolar abscess. And under these three heads I propose to arrange my remarks.

I.—To preserve the natural organs which come under our care, and to restore to their normal condition such as have been attacked by disease,

must ever be the highest aim of the dental surgeon. Among operations which have for their object the fulfilment of this aim, those must always hold a foremost place which are employed for the preservation of dental pulps—for the protection of such as are healthy from influences adverse to their health, and for the restoration of such as are diseased to a sound condition.

Inflammation of the dental pulp which has advanced to the suppurative stage, or even only to the stage of general congestion of the whole organ—a condition usually giving rise to the symptom of severe odontalgia of a persistent throbbing character,—is rarely amenable to conservative treatment. But conditions pathologically anterior to the above,—conditions, that is, of slight or even considerable irritation, both acute and chronic, local and general, do, in the majority of instances, yield satisfactory results to treatment which aims at the preservation of the organ in question. This desirable end is attained by means of sedative dressings applied either directly to the pulp itself or to its superjacent layer of softened dentine which is often so exquisitely sensitive. It is occasionally necessary to supply such dressings more than once or even twice, before the pulp can be restored to a condition such as to allow of the insertion over it of a permanent filling, but the trouble of such repeated operations is almost invariably repaid by the satisfactory results ultimately attained.

Probably the agents hitherto most widely used in the curative treatment of diseased pulps have been *creasote* and *carbolic acid*. The most useful application of *carbolic acid* here is as an escharotic to the surface of the pulp when the latter is exposed. It forms an eschar, excludes the air and septic influences, probably also stimulates the pulp to healthy action, and certainly makes the latter more tolerant of the presence of any dressing or filling which may afterwards be placed in contact with it.

Since the introduction of the use of carbolic acid, *creasote* has to a great extent been discarded—principally on account of its unpleasant odour and taste, and also because it is not such a powerful escharotic as its successor. On the other hand, it possesses, in a greater degree than carbolic acid, two qualities on account of which some practitioners still give it the preference. It is much more penetrating, carrying its effects more deeply into the substance of the tissues to which it is applied, and it is also more persistent—its antiseptic virtue is not so quickly diffused or absorbed as is that of carbolic acid.

But another medicament, possessing these qualities of penetration and persistence is *oil of cloves*. To most patients its odour and taste are not objectionable, and this combines, together with the fact that it is both an antiseptic and sedative, to make it a valuable drug. In two kinds of cases it is especially useful. First, where, owing to irritation of the pulp, there has been occasional uneasiness and slight aching in a tooth for a few minutes or an hour or two, at a time. In the great majority



of such cases there is no need whatever for any stronger measure than the application of a sedative, and one or two dressings of oil of cloves, on spongoid or paper-fibre lint, under soft guttapercha or Fletcher's Artificial Dentine, generally suffice to produce a cure. Very frequently the symptoms described above, occur without there being any exposure of the pulp, indeed the latter is often found covered by a layer of comparatively sound dentine, and it is therefore essential to success that the medicament applied should penetrate the dentine in order effectually to act upon the pulp. The second class of cases referred to, is where a large mass of softened and intensely sensitive dentine is found overlying the pulp. Here it is frequently impossible to cut away the sensitive mass at once, but a single dressing of oil of cloves left in the tooth for a day or two under a temporary stopping usually makes the removal of the decayed tissue quite bearable. In the conditions just particularised—(namely, irritation of the pulp and hypersensitive dentine), the penetrating quality of the oil makes it far more efficacious than carbolic acid.

Besides oil of cloves, I have for some time been using, under similar circumstances. Fletcher's *Carbolised Resin* (a preparation of carbolic acid and resin, held in solution by chloroform)—with the action of which I have been much pleased. It possesses in a remarkable degree the power of reducing the acute sensitiveness of the soft pulpy mass of decalcified tissue so often found in young teeth attacked largely by decay, appearing to dry it up, and harden it, and make it comparatively insensible to the stroke of the excavator. And as a direct application to the pulp when exposed it is very efficacious, both in allaying irritation and in restoring the exposed surface when diseased, to a sound condition. One not infrequently meets with cases where caries has laid bare the pulp, but where there is no history of acute inflammation, or of odontalgia, beyond a few minutes' occasional aching caused by the pressure of food or the contact of hot or cold fluids. At the same time there is almost invariably more or less congestion of the exposed part, and sometimes superficial ulceration giving rise to a slight ichorous discharge. To save such pulps is not always an easy matter, but I have found even in such extreme cases, satisfactory results to follow the application (generally made more than once) of carbolised resin.

II.—To pass now from the consideration of those medicaments used in the conservative treatment of the dental pulp, to those which are employed in the devitalization of that organ, and in the treatment of the tooth subsequent to the removal of its pulp, the drug next to be mentioned is *arsenious acid*, as being without question the most effectual agent we possess for destroying the vitality of the dental pulp. Of the various forms in which this escharotic is applied—whether alone or in conjunction with other drugs,—whether made up with carbolic acid, oil of cloves, or some other vehicle into a paste, or used in the form of a dry powder—I need not here speak in detail.



I have not myself found in the combination of morphia with arsenic the marked advantage which some practitioners speak of. I have made use of such a combination not infrequently, but I cannot say that I have noticed much if any difference in the percentage of cases where pain has been set up by the application—as compared with such a percentage in those cases where arsenic has been used alone. But though doubtful as to whether the morphia is of any real service, I am inclined to think that the tannin is sometimes of use. The destructive inflammation set up in the pulp by arsenic sometimes results in the rapid softening and disintegration of that tissue, whereby its removal is made a matter of more than usual difficulty. Tannin, to some extent I think, prevents this, by combining with the fibrinous elements of the pulp, and thereby giving it, even after it is devitalized, a tougher consistence—a state in which it is more easily got hold of and removed.

I believe that a favourite mode of using arsenious acid is in the form of a paste, but on the whole the dry powder is much to be preferred, as in most cases it is decidedly more manageable. When a paste is used, it should be a stiff one, so that it will only go just where it is wanted. The great, and to my mind, fatal objection to the preparation known as Baldock's Paste, is its extreme softness, which makes it flow in any direction open to it, upon the application of the least pressure.

The method of using arsenic which I find the most generally successful, is the following:—After a free removal of decayed tissue, care being taken on the one hand not to wound the gum when the cavity extends beneath it, and on the other hand to expose the pulp as widely as possible, the cavity is well mopped out with carbolic acid or oil of cloves, in order to allay, as far as possible, whatever general irritation of the pulp may exist, and to numb the extreme sensitiveness of the exposed part—thereby enabling the latter better to bear the contact of the arsenical dressing, and lessening the possibility of odontalgia resulting from such contact. After being thus prepared, the cavity, especially round its margin, is carefully dried, and then a disc of red blotting-paper (the red colour being of use in clearly distinguishing the dressing from the tooth-substance in cavities difficult of access), is moistened with oil of cloves or carbolic acid, made to take up a dose of powdered arsenic, and laid lightly over the exposure. In the majority of cases, by far the most convenient preparation for use as a temporary filling over the arsenic is Fletcher's Artificial Dentine. Its one disadvantage is the momentary twinge caused by its coldness when it approaches the pulp. But this drawback is quite outweighed by its ready adaptability to almost any sort of cavity, by its extreme softness—which reduces to a minimum, if it does not prevent altogether, the chance of pressure on the pulp—and by the absolute manner in which it seals up the application. In cases where, the gum having grown into the cavity, it is desirable to insert a temporary filling to exert pressure upon the intruding tissue, it is a use-

ful plan, after adapting the arsenical disc, to seal it with a cap of vulcanite or soft metal charged with Fletcher's Dentine; then, gutta-percha or mastic and wool can be firmly packed against the gum without any risk of pressure being made upon the pulp.

I believe the most frequent cause of the severe pain which sometimes follows the application of arsenic, is insufficient exposure of the pulp. Wherever it can be done, the latter should, by one or two firm strokes of a spoon excavator, be laid bare as widely as possible, for, though often a very painful procedure, it is one which, if accomplished, is generally the means of saving much more suffering than it inflicts. Suffering due to pressure of the dressing upon the exposed surface of the pulp need never occur. For such pressure is invariably indicated by a sudden and immediate access of pain upon the insertion of the temporary filling; consequently, when such pain shows itself the filling ought to be removed and re-applied.

In those cases where, in spite of a free exposure of the pulp and the careful avoidance of pressure upon it, severe aching (sometimes of long duration) follows the application of arsenic, there is generally found to be more or less extensive calcification of the pulp. Under such circumstances the pain is sometimes even more severe than where arsenic has been applied without an exposure, and what makes the matter worse is the fact that sometimes, even after several hours' severe pain, a considerable portion of the pulp, cut off by nodules of secondary dentine from the action of the arsenic, is found to have been unaffected by the latter, still retaining its vitality. Fortunately, a second application of the escharotic is rarely, if ever, productive of pain, and this in most cases is sufficient to devitalize the remainder of the pulp. When, however, the root canals are so blocked by nodules as to prevent the arsenic from acting upon their contents, I have in such cases found creasote of value, both in finally removing any odontalgia arising from the remainder of the pulp, and in drying up and rendering comparatively innocuous the latter, when it cannot be entirely removed. I may say that this is the only use to which I put creasote, and whilst in general it is to be avoided in the treatment of roots on account of its irritant action on the periosteum, in the exceptional cases just cited, I have never found ill effects to follow its application;—probably because, owing to the condition of the canals, little if any of the creasote reaches their apices, and also because, where there is a constitutional tendency to calcareous degeneration, there is in most cases less liability than usual to suppurative inflammation of the soft tissues.

Where periostitis follows the extirpation of the pulp, the medicaments which I have found most effectual in allaying the irritation are either oil of cloves, or a combination of carbolic acid, aconite, tannin, and glycerine,—

Tinct. Aconit. fort. ... ..	4 parts.
Acid Carbol. ....	„
Acid Tannin   ā ā .....	2 „
Glycerine .....	4 „

being useful proportions.

The clove oil I prefer where the canals are narrow and difficult to reach, as it is more penetrating of the two, but where the canals are open, allowing the passage of an appreciable amount of fluid, the second preparation will generally be found the most efficacious. I have found this dressing of great value in several obstinate cases of discomfort following on the devitalization of the pulp, where it has been impossible to remove the whole of the dead organ, owing to the position of the cavity and the shape of the roots.

Before leaving the subject of devitalization of the pulp, a word or two must be said on the abuse of arsenic, for valuable and important as it is as a therapeutic agent in the hands of the Dental Surgeon, yet it must not be forgotten that this drug is open to great abuse. I refer, in the first place, to those cases in which arsenic, escaping from the cavity in which it has been placed, does injury more or less severe to the neighbouring tissues of gum, mucous membrane, and bone. Happily, such cases are not numerous, and if due care were always taken properly to seal up the arsenical dressing, they would be rarer than they are. Under certain conditions, as where the cavity is unusually inaccessible, or it extends largely under the gum, or where there is an extraordinary flow of saliva, or where a combination of these difficulties is found,—under such conditions it is sometimes impossible to make sure of applying a water-tight covering over the arsenic. In such a state of things it is sometimes possible and advantageous to apply the dressing by means of an artificial cavity, made by the drill for that purpose. But where this latter plan cannot be adopted, it is better, rather than running the risk of an ulcerated gum and possible subsequent necrosis of a portion of the alveolas, either to make use of some less effectual agent than arsenic or else to extract the tooth.

But in the second place, arsenic is abused in another way which, though causing less serious results in individual cases, is productive of an amount of harm and loss to the Dental organs that in the aggregate is probably greater than that resulting from the deleterious action of the drug on the gums and alveolus. Without question, arsenic is largely abused, in that it is very frequently applied where, instead of such a course being taken, the pulp ought to be saved. It is far too common a practice indiscriminately to employ arsenic whenever an attack of odontalgia indicates disease of the pulp, although the diseased condition may only consist in irritation or local inflammation quite amenable to the action of a sedative. Whilst putting high value on arsenic in its proper place, and whilst there should be no hesitation

in employing it when necessary, even at the risk of its giving rise temporarily to considerable pain; yet in holding by the principle that the best surgery is that which aims at maintaining normal physiological and anatomical conditions—it must be insisted on that arsenic should never be used when there is a fair chance of preserving the vitality of the pulp.

In the third place, arsenic is abused—that is, its power for good is diminished, and pain and discomfort, sometimes of a serious and incurable character, are ultimately brought about, by the pernicious practice of leaving *in situ* the devitalized pulp instead of removing it. The entire removal of the dead tissue should never be omitted; and although this statement will be endorsed by every conscientious operator, its assertion, and even reiteration, is not needless, for owing to the tedious, difficult, and sometimes painful nature of the operation of removing the pulp, it is very often left undone. A tooth containing a dead pulp may remain comfortable for a considerable time, but in the majority of cases, periostitis, and subsequently alveolar abscess are certain sooner or later to supervene.

III.—To the subject of alveolar abscess, and the consideration of some of the drugs used in its treatment, I would now direct your attention for a few minutes. Success in dealing with cases of alveolar abscess often depends on the care and delicacy with which the first steps in the necessary course of treatment are performed. Before anything else is done, the pulp-chamber and root-canal or canals leading up to the abscess ought to be carefully and thoroughly cleansed of the accumulations (with which they are sometimes quite filled up) of decomposed putrescent *debris*. Here, very careful and delicate manipulation is often necessary to guard against the danger of forcing these accumulations through the apical foramen into the abscess sac, and so renewing the very irritation which it is one's object to allay; this danger is particularly to be guarded against in two classes of cases,—first, where an abscess has not yet actually formed, but where the canal is full of foul matter from the decomposition of the pulp; and second, in old standing chronic cases where there is, at the time of treatment, no active discharge going on.

The plan which I have found the safest and most generally successful in the cleansing of foul pulp canals, is—first of all, to pass up them a very fine hair broach, or—what I have found better still, and very useful for this purpose—one of Donaldson's "Spring-tempered nerve bristles." This, whilst it cannot carry anything up the canal before it, effectually breaks up the sometimes half-solid matter contained in the root, and also gauges the length and finds out the direction of the root. The loosened *debris* or fluid discharge (as the case may be) should now be taken up and removed by cotton wound on the bristle, the merest strands of wool, however, being used, so as to avoid any tight fitting of



the bristle and consequent piston action on its part. When as much as possible of the canal contents have been removed in this way, a syringe gently used with warm water will generally be of service in effecting the removal of much that is left. But the syringe should be followed by the use of the bristle and cotton again, until all foul matter has been entirely removed. Then (and not till then), may a dressing be pumped up the canal. For if before the latter is properly cleaned out, some medicament is vigorously pumped up it, the application is abused, and such a course may do more harm than good.

Carbolic acid, oil of cloves, eucalyptus oil, and the combination mentioned above, of aconite, tannin, carbolic, and glycerine are the agents which I find most generally useful in the treatment of these cases. Until lately, the medicament most universally employed has probably been *carbolic acid*, used either alone or with glycerine or oil. It is still of great service under certain conditions, although under others its use has been to a large extent superseded by antiseptics like oil of cloves and oil of eucalyptus. In actively discharging abscesses, one or two thorough applications of carbolic acid pumped up the canals, are often the means of effecting a cure. By its escharotic action the acid destroys the secreting power of the sac wall, whilst its further application in a more dilute form, stimulates healthy action in the periosteal tissue. It is often also of value when applied in the same way to chronic indolent abscesses with fistula, from which there has been for some time a more or less constant discharge. But when these chronic cases present themselves for treatment, as they frequently do, not because they are the seat of pain, but on account of the annoyance and discomfort occasioned by the discharge, then carbolic acid is not always the best medicament to employ. For its escharotic action, so useful in recent, sometimes gives rise in chronic cases to considerable irritation of the periosteum, and subsequent pain and uneasiness of the tooth. This periosteal irritation is still oftener the result of the employment of carbolic acid, in those cases of undeveloped abscesses already referred to, where the predisposing cause to abscess (consisting in a pulp-chamber and canals full of putrescent matter) exists, but where the exciting cause (such as a passing cold, a lowered condition of the system or the like), has not yet made itself felt. Here, the death of the pulp, and subsequent proximity of its putrescent remains to the periosteum surrounding the apical foramen, produce in that periosteum a lowered condition of vitality, and make it abnormally susceptible to external stimuli. Under such circumstances the employment of any dressing of an irritant nature, acts as the exciting cause, and produces the very trouble which it is one's object to prevent.

In the treatment of such conditions, therefore, I generally employ, and with very satisfactory results as a rule, either *eucalyptus oil* or *oil of cloves*. Both are antiseptics—the former a powerful one, and they both



possess a double advantage over carbolic acid in that they are sedative rather than irritant, and in that a dressing of either retains for a much longer period than a carbolic dressing its antiseptic quality. Being also more penetrating than the latter, they pass with greater readiness up narrow and tortuous canals, and soak more thoroughly into the dentine of the root. That they are both solvents of gutta-percha is yet another fact in their favour, as this quality helps to ensure a water and air-tight covering to the dressings—a condition not to be despised, when it is remembered how easily septic influences are conveyed by water and air. As to the relative value of the two oils, I usually give the preference to the eucalyptus, as being perhaps the more powerful of the two. The clove oil is, I think more distinctly sedative than eucalyptus, and I therefore use it where sedative action is especially demanded.

Where there is considerable periosteal irritation in connection with the abscess undergoing treatment I find the *tannin* and *aconite* mixture of great value, and generally obtain speedy relief by its means.

To use *creasote* in the treatment of alveolar abscess is an abuse of that drug. As I have already remarked, the alveolar dental periosteum is readily irritated by it, and for this reason, as well as on account of its odour which is so decidedly objectionable to most people, its employment in alveolar abscess is greatly to be deprecated; for it may easily do more harm than good, by producing or aggravating periostitis to such an extent as to necessitate the ultimate removal of the tooth undergoing treatment.

In concluding this brief review of the varied applications of some of our local medicaments, I should like to say a word or two on the influence which may be exerted by the knowledge of constitutional conditions or tendencies upon the local treatment of dental disease. For a careful consideration of a patient's general health, of any known or suspected diathesis or constitutional taint, is often of great value in helping a determination as to the best course of local treatment to adopt. I cannot here enter at length into this interesting question, but I may just indicate its bearing by one or two examples. In cases of pulp trouble arising—in scrofulous or syphilitic subjects, or where in the absence of these specific conditions there is a feeble and cachectic condition of system,—in such cases as a rule curative treatment is generally found to fail, and the course distinctly indicated is devitalization of the affected organ. Again, some temperaments, even in health show a marked intolerance of operative interference which approaches the dental periosteum and a strong tendency to suppurative inflammation of that tissue. Here, great care must be taken to avoid irritation of the periosteum in the after-treatment following the removal of a pulp, or in alveolar abscess. And in case of rheumatic diathesis, there is very frequently a disposition to calcareous degeneration of the dental pulp, so that if the constitutional tendency is known before the local treatment is commenced, one is enabled to warn the patient of probable pain if arsenic has to be applied,

or, better still, one can make a special endeavour to save the pulp, or to reduce its vitality by some other means.

In considerations of this kind, as well as in those suggested by the local conditions themselves, there is much room for the exercise of care and discrimination in the use of local medicaments. The treatment of which their use forms a part, may often involve the expenditure of a considerable amount of time and trouble—as compared for example with the rapidity and ease (so far as the operator is concerned) of extraction; but the necessary time and labour should never be grudged when by their means, painful and previously worthless teeth may be restored to comfort and utility, instead of being prematurely and needlessly lost. Certainly, the more care and skill we display in the treatment of difficult and tedious cases, the more worthy, shall we be of the confidence of our patients, and the more honoured shall we help to make a profession which has for its highest aim, the preservation in a useful and healthy condition, of the natural organs.

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### THE DINNER.

At half-past six o'clock, the members dined together at the Adelphi Hotel. Mr. H. Champion, President, occupied the chair, and the vice-chair by Major R. E. Stewart, the Vice-President. In addition to about forty members, the company included the following invited guests:—Reginald Harrison, Esq., F.R.C.S., President of the Liverpool Medical Society, Dr. Nevins, Dr. Gee, Dr. Bailey, Dr. Kisch, Dr. R. H. Johnson, T. Dawson, Esq., M.R.C.S., J. Smith Turner, Esq., M.R.C.S. (Hon. Sec. of British Dental Association), J. J. Monk, Esq., T. J. Moore, Esq., &c., &c.

The PRESIDENT said the first toast which he had to propose would, he was sure, need very small recommendation from him. Englishmen, from time immemorial, had been loyal subjects of royalty, and when he proposed the health of "Her Majesty the Queen and the Royal Family," he was sure it would receive a hearty response from the company.

"The National Anthem."

The PRESIDENT said the next toast on the list was also one which he was sure he need not detain them long in proposing. They all knew as well as he could tell them the respect which they owed to their country's brave defenders, and he therefore called upon them to drink the health of "The Army, Navy, and Reserves."

Major STEWART responded. He said: A volunteer always felt it a great honour to have the pleasure of responding to a toast in

connection with the army and navy. The auxiliary force had now been in existence over 22 years, and the army and navy had for many years back looked upon that force in a different light from that in which they had originally regarded it. He thought the Volunteer Service afforded an excellent means of relaxation to gentlemen connected with the Dental profession, who were confined all day hard at work in their operating rooms, and he might say that there were, up and down the country, many dentists whom they all appreciated, connected with the Service. He only hoped and trusted that before many months had passed, they would find that several gentlemen then present, had taken it into their heads to apply for Her Majesty's commission. With regard to the Naval Volunteers, he believed Dr. Reginald Harrison had some experience of them, and he thought he would bear him out in saying that, the sooner the government took them in hand and gave them a capitation grant the better.

The VICE-PRESIDENT then rose to propose the health of the President of the Midland Branch, and, in doing so, expressed the gratification he felt in seeing Mr. Campion at the head of the Branch Association for another year. When the Council did him (Major Stewart) the honour to nominate him as their president for 1881, he felt that the success of the branch would be better secured by retaining the services of Mr. Campion for another year; and on behalf of his brother practitioners he welcomed him to Liverpool, and trusted that they might have the pleasure of seeing him again when the parent Association visited this city. When they did so he could guarantee them a hearty reception and a cordial welcome. Although Mr. Campion had not received the support which he might justly have expected from some of his brethren in Manchester, he could assure him that the profession generally throughout the district had the fullest confidence in his able superintendence of the business of the Association—and, not only so, but that the heads of the profession in London looked upon the Midland Branch with great hopefulness and much satisfaction, chiefly from the fact that Mr. Campion had so nobly come forward to take the management of affairs during its formation and establishment. He hoped that the time was not far distant when they would have quarterly meetings for discussion and mutual improvement in the art and science of Dental Surgery—and he felt quite satisfied that such meetings would tend to the improvement of the profession at large, and raise it in the estimation

of the public. They were all delighted at seeing their esteemed president amongst them, and united in wishing him long life, health, and happiness.

The PRESIDENT, who, on rising, was received with prolonged applause, said he felt that he had a difficult task to fulfil, for he scarcely knew how he was to thank the vice-president for the very kind way in which he had proposed his health, and the company for the hearty manner in which they had received the proposition. The Vice-President especially he hardly knew how to thank, for he could not but feel in a manner guilty of having deprived Major Stewart of the privilege and honour which were due to him of presiding over the Association in the town in which he practised, and in which he was so well known and respected. He felt also that he had deprived the members of the branch of the services of one who would have fulfilled the duties of the office better than he himself had been able to do. As regarded the annual meeting of the branch he thought that they might congratulate themselves upon its success. He could only say for himself that it had given him the greatest pleasure to be present, and he hoped that it would be his good fortune to be able to attend many similar meetings, provided he was released from the responsibilities of office. They had already heard so much of the progress which the Society had made that he was sure it would be useless repetition for him to say much on that head, beyond this—that he thought they might most heartily congratulate themselves on the increase in the number of members and in the progress they had made since the last meeting. There was, however, one subject, which had already been broached by their worthy Vice-President, which he should like to touch upon. He mentioned it at the last meeting. It was the hope that he had of seeing the Society at no distant day assemble more frequently for the reading of scientific papers and discussions. The railway service between Manchester and Liverpool placed the two cities in such close proximity that he saw no reason why they should not have alternate meetings in these two great centres. The plan, he thought, would be to begin with one or two meetings, in addition to the annual meeting—as, say, one in Manchester and one in Liverpool. He mentioned these two towns as being the largest, Liverpool certainly contained the largest number of members; but he hoped that Manchester would make considerable advance as time went on. Both cities offered great facilities, and he hoped that, if not next year, at any rate in



the following year, they would be able to have some additional meetings in Manchester and Liverpool. At any rate, he would suggest to those who felt an interest in the subject that they should urge the matter on the attention of the Council. He could go on and say several other things, but he would not detain them long, because there was a great deal more to be done; but the position in which he was placed reminded him of the story which, if they would excuse him, he would relate. Some years ago, when he lived in Devonshire, two friends of his were fond of going round on the Sunday afternoon to the country churches in the neighbourhood to hear the manner in which the musical portion of the service was performed. He should say, that round there, it was a common thing to hear, instead of organs, instruments performed on by the country residents. He knew one choir, which was led by the village blacksmith, on a violoncello made by himself. These two gentlemen, were members of the Oratorio Society, and one Sunday they walked eight or nine miles to a country church, and sneaked up into the west gallery, as they thought, unseen. In those days, it was the custom to sing the metrical version of the Psalms. All went on well until the time came to sing the first Psalm. The clerk gave out, with his usual nasal twang, "Let us sing to the praise, &c., the 95th Psalm. That is, not all o' thee, because there are two gentlemen come from Exeter, and maister wants to hear them sing." He (the President) felt somewhat in that predicament. He could not say they had there two gentlemen from Exeter, but they had the worthy secretary of the parent society in London—and he was sure they were more anxious to hear that gentleman than they were to hear him. He would, therefore, not detain them longer than just to say that he thought they owed Mr. Turner a great debt of gratitude and their very best thanks for coming so far, at great personal inconvenience, to take an interest in their branch meeting, and also, he hoped, give them a little information of what the parent society was doing, because he knew that many of them, like himself, were not able to go to London as often as they could wish. But before he introduced to them the Secretary of the parent Society, he had given to him what would be a very pleasant task if he could fulfil it in a manner to please himself, but he was sure that he could not. He had to propose the health of "The Medical Profession." This, he need not say, was a very comprehensive toast. None but those who had thought of it and examined into it were able to appreciate

the good qualities of the medical profession. It must be remembered that they lived at the beck and call of a very hard task-master—the public. They had no time to themselves during the day, and were called at all hours of the night, and they were always willing to respond when called upon. They gave their service gratuitously to medical charities, and were always anxious to obey the call of poor patients, seeing in them only suffering fellow creatures who needed their assistance. He maintained that there were very few professions which equalled the medical profession in the good it did for suffering humanity. He, therefore, asked the company to drink most warmly and heartily the toast he had the honour to propose, with which he begged to couple the name of Dr. Nevins.

Dr. NEVINS, who was most cordially received, said he knew not how adequately to thank the President for the extremely kind manner in which he had proposed, and the company for the cordiality with which they had received the toast. The President had spoken of the comprehensiveness of the medical profession. Well, the Dental profession was only the last of its relations, the last of its friends, whom it had comprehended among its ranks. It had been from time to time comprehending in its ranks people who had now gained a position such as the Dental profession had gained much more rapidly. It began by comprehending herb gatherers; and herb gatherers had advanced into the position of chemists and pharmacutists. Next it comprehended what seemed very little worthy of dignity, the barber's pole and bleeding dish. Then it embraced what used to be considered a very subordinate branch—the bone-setters; and the bone-setters being taken in hand by Ambrose Paré and Sir Astley Cooper, there was not a more honourable profession than that which was devoted to the treatment of joints and bones. And coming lastly to the Dental profession, seeing that in their earliest infancy they required their gums lancing, that when they had white beards they needed the assistance of their Dental friends to enable them to enjoy such a banquet as they had just partaken of, instead of simply bolting it, that, if they had any regard for appearances, they were indebted to the Dentist for red gums and white teeth, and that so many of the beauties of the day were entirely dependent on his art and skill, he thought the medical profession had great reason to be proud that it comprehended the Dental

profession. It was no new alliance. The very heads of the medical profession long since devoted themselves to an alliance with Dentists, and John Hunter had written, as they knew, a most valuable work—one of the most valuable works that had ever been written on Dental Surgery. He (Dr. Nevins) should never forget the obligation he was under to his old teacher, Mr. Bell, the eminent Dentist, who was Lecturer on Dental Surgery at Guy's, when he was a student there. To know him was to respect him and to remember him with affection always. But they need not go back to such remote periods as those; for they had Mr. Tomes, who adorned his fellowship of the Royal Society by devoting himself to Dental Surgery and Dental Physiology; they had Mr. Saunders, whose name was a household word; and they had their respected President himself. And, talking of self-denial on the part of the medical profession, why, they could not take up a syllabus of a hospital but they found Mr. So and So, Dental Surgeon, devoting his gratuitous services to the benefit of the poor with as much cheerfulness and alacrity as any medical man connected with the place; and for self-denial in advancing the interests of the profession, their friend Mr. Turner was one of the greatest instances of self-denying sacrifices made in behalf of a great cause that they often met with.

Dr. R. H. D. JOHNSON, in proposing the next toast, "The Officers of the British Dental Association and Branches," said, the Association, and branches, and the officers were labouring earnestly to elevate the Dental profession, and raise it to a high standard of proficiency. Not many years ago, the blacksmith could leave his anvil, the tailor his board, and, with brazen impudence, have his name engraved upon a brazen plate and affixed to the door of his house or his lodgings, and then, employing the educated brain of which he was not possessed, obtain a treatise upon "Teeth: their Diseases and Treatment," and, after distributing some hundreds of these pamphlets, have the brazen coin transmuted, as though by a Midas touch, into a golden one. Now, thanks to those noble pioneers, some of whom he should shortly mention, things were changed. Before any one could enter the Dental profession now, he must have gone through a regular curriculum, and have proved to a Board of Examiners that he was fitted for the position he aspired to. Anatomy, physiology, chemistry, &c., were branches of science of which he must have a fair knowledge, and thus prove himself to be worthy of the public confidence so far as his pro-

professional attainments were concerned. This advanced state of things was chiefly owing to the few energetic, self-denying gentlemen, amongst whom were some of the officers of the Association. The first name he would bring before their notice was that of John Tomes, F.R.S. He had a world-wide fame as an author of a standard work on Dental Surgery, and his name would be handed down to posterity. He was for many years lecturer on Dental Surgery at Middlesex Hospital, and for some time an examiner of the Royal College of Surgeons of England. A most eminent practitioner, of some 40 years' standing, he had now retired, but still devoted himself to the endeavour to elevate the Dental Profession. He was chairman of the Dental Reform Committee, and one of the chief promoters of the Dentists Act. He was chief mover in establishing the British Dental Association, and he was not only its president but was acknowledged as the head of the profession in this country. Mr. John Smith Turner—the Secretary of the British Dental Association—was with them that evening and they would hear him in response to the toast. He was formerly secretary of the Dental Reform Committee, and was a most energetic, indefatigable, and self-sacrificing worker. The whole Dental profession was deeply indebted to his earnest labours. Mr. Turner had made great personal sacrifices—which he was forbidden to mention—for the sake of the Association, and his labours were beyond all praise. The worthy President of the Midland branch had already been spoken of by the Vice-President, who proposed his health. His wisdom and sound judgment had been extremely useful. Mr. S. Wormald, the Treasurer of the Midland branch, had been associated with the recent reform movement from its commencement, and he was the prime mover in calling together the first meeting in Manchester in 1875, from which the Dental Reform Committee originated. Coming nearer home, they had their worthy Vice-President, who had been Honorary Dental Surgeon to the Royal Southern Hospital for a period of about 18 years, Lecturer at the Royal Infirmary, and associate with many of the local scientific societies—a gentleman respected by the Dental profession and by all who knew him. His zeal and indefatigable determination to surmount all difficulties were a matter of wonder and surprise. Dr. Waite, a member of the Committee of the British Dental Association and Secretary of the Midland branch, was well known for the interest he had at all times taken in Dental science. He was for about eight years



Honorary Dental Surgeon to the Liverpool Dental Hospital, and then resigned, but had only the previous day been unanimously re-elected by the Committee. With such officers and leaders there need not be any fear for a loss of professional status, but they might rest assured that, if the rank and file would do their duty, the officers would lead them on from victory to victory

Mr. J. SMITH TURNER, in responding to the toast, said: Sir, I rise with more than my ordinary share of embarrassment to reply to the toast so kindly proposed by my friend Dr. Johnson, and so cordially seconded by the whole company. I feel embarrassed because my feelings are of a mixed nature, composed of a considerable amount of satisfaction, and, I must add, of a considerable amount of dissatisfaction. The first feeling I have mentioned arises from various causes; the nearest is, perhaps, that intensely comfortable feeling which possesses a man who has judiciously partaken of a good dinner in the company of esteemed friends who have extended to him the utmost cordiality, with friends who are engaged in the pursuit of the same object and actuated by the same feelings, who have made the same sacrifices, and who are prepared to make still further sacrifices in aid of the common cause. Another immediate source of satisfaction is, that I am able to congratulate my friends on the complete success, not only of the day's proceedings, which up till now have been so very enjoyable, but also on the success of the Midland Counties' Branch, indeed I should say the only branch, of the British Dental Association. That success may not be so obvious to every one as has been the day's work which we are so nearly finishing. I know that every individual member is essential to the success of the Association, but it is only given to the executive to know what that success really means, and perhaps of the executive it is only two or three who know the amount of labour and anxiety which that success really represents, and when I look back on the state of the profession only over the space of a few years, I consider the gathering of to-day a great and successful event. I have been much impressed by the fact that our proceedings were held in the rooms of the Medical Institute of Liverpool. This, Sir, is a most satisfactory sign of the times. It shows that the medical men do not share the dismal fears of the *Lancet*, that their profession will be degraded, and that people who are allowed to call themselves Surgeon Dentists or Dental Surgeons, will creep into their ranks and be mistaken for Surgeons.

Rather, I think, do they incline to the views of the writer in the *Scotsman* newspaper, who, in reviewing the fears of the Edinburgh College of Surgeons on the matter, said, that the public could distinguish between a drum and a drum major, or between a cart and a cart-horse, and were not likely to make a mistake between Sergeant Buzz-fuzz, of Lincoln's Inn, and Sergeant Mactavish, of the 42nd Highlanders. I know, Sir, that the medical profession has a well-grounded objection to the multiplication of specialities; but, Sir, when the leaders of the Dental and Surgical professions arranged the necessary Dental Curriculum, they saw that if there existed a plea for a speciality irresistible in its force, it was for Dentistry, for they found that they had to insist upon a training which could not be supplied by any medical school whatever; and that nothing but a special hospital and special instructors could meet the requirements of a curriculum differing in kind, but not in degree, from that required by the Surgeon. The profession, in its past condition, has been likened to a body without a head; why, Sir, it might, with equal truth, have been said, that it was all legs and arms, without even a body to which a head could be attached. To me, it has sometimes looked like a huge lob-worm cut into many pieces, each piece struggling for a bare existence, with no vitality to spare to resist attacks from without, or to prevent the interspaces being filled up by all sorts of heterogeneous rubbish having no resemblance, but in name, to the original requirements. When I look on that picture and on this, I find an additional source of satisfaction. I have been requested by our illustrious President and the Business Committee of the British Dental Association—who quite anticipated your success—to convey to you their sincere congratulations, and to thank the Midland Branch for its consistent support of the Central Executive. The third source of satisfaction to which I will allude is rather more limited, because of a personal nature. I have to thank you, gentlemen, for coupling my name with the British Dental Association, and for the reception which you have given me to-night. It is to me an assurance that, however far short of my own desires may fall my efforts on behalf of our profession, and however feeble and foolish they may appear in the eyes of those who stand aloof and imagine that fault-finding is criticism, they are, in the opinion of those who have engaged in the work of organizing our profession, and have supported us by their influence and money, accepted as

honest efforts and in some degree praiseworthy. I assure you that your kind feeling will be received with the greatest satisfaction by the executive in London, and will stimulate us to further effort, and support us in many an hour of seemingly thankless labour. But, Sir, there is another side to the picture, and in the midst of our congratulations, we are reminded that

“There’s a poison drops in man’s purest cup ;  
There are serpents to coil ere the flowers are up :  
There are demons to watch for his cradle breath,”  
And his earliest footsteps are dogged by death.

This last line is not in the original, so that accounts for its unpoetical construction ; but I think the verse very clearly expresses the experience of the organisers of the Midland Branch, and none the less, but perhaps more so, because on a more extensive scale, of the promoters of the British Dental Association itself. I know that in expressing my dissatisfaction with things as they are, I am very much in the position of a parson surveying the vacant seats in his church, and who forthwith proceeds to lecture his congregation on the importance of public worship. He is convincing those who are convinced already ; but if the listeners be wise they will accept the truth of the kindly admonition, and, as a set-off, congratulate themselves upon their superior virtue. Well, sir, I think we must try and do something like this to-night, and appraise our own superior wisdom by the light of other people’s folly. When the Association was established, a little over two years ago, by the vote of the largest meeting of dentists ever held in this country, the hands of several persons were held up in support of the resolution, but those same gentlemen have not yet joined the Association. Now, I think we have a right to be dissatisfied with such conduct, for if we are entitled to look to any quarter for support, it is to those who voted us into existence. Now, I wish to recall to your minds an incident of that meeting, because I think it will answer an imputation which has been brought against the management of the Association, which is, that it is managed by a clique. I know that this is an accusation more easily made than refuted, because any committee may be so stigmatised by those who wish to find fault. In the present instance, however, I would ask you to let me carry your memories back to the first meeting of the subscribers to the Dental Reform Fund ; most of you know the lengthened and laborious process by which the Dental Reform Committee was formed, and how careful its promoters were that it

should be as representative as possible, not so much in a local point of view as in representing every grade of the profession, and how through the indefatigable zeal of Mr. Charles James Fox, and the means of publicity afforded by the "British Journal of Dental Science," the subscribers found their committee formed, and were able at once to elect their office-bearers at their first meeting. Well, Sir, when the Dentist's Bill was passed, the *raison d'être* for the existence of the Dental Reform Committee had passed away, and by a vote of the same meeting which founded the Association, this same committee was reconstituted the Representative Board of the British Dental Association. The Representative Board at once set about the work confided to it, but as the objects of the Association were likely to make its acts somewhat aggressive, a considerable number of gentlemen refused—and I think rightly—to join the Association unless they had the protection which limited liability alone could afford them. Under these circumstances it was found necessary to incorporate the Association under the Limited Liabilities Act. This involved the alteration of our bye-laws to meet the views of the Board of Trade, and the exigencies of certain specific dates which had to be inserted in our Articles of Association. All this took time, and made one year overlap another, and so the existence of the original Representative Board was prolonged for a few months longer than was anticipated. This, I think, is a correct and reasonable explanation of the state of affairs which has led to the imputation of cliquism, and I would suggest to those gentlemen who make the imputation that they should join the Association, and by their energy and influence destroy the clique for ever. If they do not this, I do not think they should expect the members to go to them and ask whom they are to elect as their office-bearers. This year there are ten names of retiring members of the Board to be laid before the Association at its first annual meeting in London in August, and I hesitate not to say—at the risk of being called an arch cliquist—that I believe it will be a great misfortune to the Association if several of these gentlemen be not re-elected. I hope we may have some fresh blood infused amongst us, but at the same time I hold that, more particularly in the infancy of an institution, it is dangerous to part with men who are more or less familiar with the exigencies of office, and to replace them by strangers to the work. For myself and a few others I may say that we are quite willing to give up both the sweets and the sweats



of office so soon as the votes of the members require us so to do. Another source of dissatisfaction is the fewness of our numbers. I am continually being told, in reply to my unceasing grumblings, that our success is wonderful, that in a short time we have had a most satisfactory accession of members, and that in two short years we have founded an association, incorporated it, and established a journal for the use of its members, and that compared with the progress of kindred institutions our progress has been remarkably rapid. Now, Sir, I do not wish to dispute our success, but when I am told that it is wonderful, I must say that the wonder in my mind is all in the other direction, and that I think our numbers wonderfully small. Had we been differently situated, I for one would have willingly witnessed that slow and steady growth which is the characteristic of all stable institutions. If we had only to provide for the future protection of the Dentists' Association our progress would have been most satisfactory, but when we had a great work to do directly affecting the interests of the public and the profession, I say that the support which we have received has been most unsatisfactory, and I am inclined to think that unless a great change arise in this respect, the dentists may one day have to reckon with an indignant public for gross neglect of the interests of the community which they profess to serve as professional men. To those who ask "what have you done?" I say that unless they have followed the literature of the subject from the commencement—and their question leads to the assumption that they have not—it is hopeless to try to enlighten them. But I would ask these gentlemen on what grounds they expect anything done for them? and what have they done? They have been told plainly that their support was necessary in order that anything might be done; it has pleased them to hold back that support; to be consistent, they should hold their tongues also, or come forward, like men, and help those who are willing to help them. I do not expect consistency, neither do I wish people to be quiet, but I think idleness and selfishness a poor school for critics. It may be within the memory of many here that when I had the honour of presiding at a meeting in Manchester, when this thriving Branch Association was first established, I ventured to express an opinion that whatever we wanted done we would have to do for ourselves, and that we had little to hope for from the Medical Council, as it never had and was not likely to undertake litigation. Well, Sir, we have done the very utmost we could do for ourselves with the very

restricted means which the profession has placed at our disposal. After an immense amount of labour, we collected a list of a large number of persons who were improperly registered, and which we—for want of being able to follow a better plan—laid before the Medical Council. Well, I had great expectations from that body; I felt sure that the men with the clearest heads and the most liberal minds were favourably disposed towards us, and sympathised with us in our efforts to raise the profession which had been so shamefully neglected by the directors of medical education; but in this instance my hopes were disappointed. I do not wish to go over the ground so recently trodden; but if you will grant me your patience I would call your attention to one or two points of which you should take notice. When the list of names was sent in to the Council, it soon passed into the hands of the lawyer, and this gentleman, without making any effort to know what had been done by the Association, or without making use of whatever information we possessed, must need go over all the ground again, and with the result that he was enabled to divide the alleged defaulters into two or three different classes, all of which might have been done from the letters in possession of the Association. But then, Sir, the lawyers' expenses amounted to several hundreds of pounds, the work of the Association had been done at an expenditure of £4 or £5 instead of as many hundreds. Let those who imagine the executive of the Association does nothing, turn that little fact over in their minds, and if from this they infer that there is much of such work done which can never be taken into account except by those who do it, they will not be far wrong. Now, after all this, what I hold to be wasteful expenditure of money, it occurred to some one to have legal advice on certain points, and, armed with counsel's opinion, procured (no one here knows when or how) and without the Association being allowed to put in an appearance in the matter—the Dental and Executive Committee came before the Council, and by clever management on the part of some of its members, drove the majority into a corner, when in obedience to what was forced upon them as law, they did what they considered their duty compelled them to do. I was present at that meeting, and I do not know which was most remarkable, the ill-concealed exultation of the champion of this attempt to discredit the Dentists' Act, or the reluctance with which the majority received what some of them considered the very remarkable reading of the law they

seemed compelled to adopt. But, Sir, I must confess to a feeling of gross wrong, when I heard Dr. Quain expressing his admiration of intelligent hairdressers, and addressing the President of the Medical Council with all the accompanying gestures of a personal triumph, say, "Why, sir, what is dentistry? Even the great Cartwright based his reputation on drawing teeth." It is not necessary for me, in an assembly of Dentists, to defend the reputation of the late Mr. Cartwright; but I think if this ingenious gentleman chooses to associate allopathy with homœopathy, and dental surgery with hairdressing, he should not, in support of his purpose, attack the reputation of a man who is dead and gone. And if it is any man's taste to allow the person who has just trimmed his whiskers to have a turn at his teeth, still he should not try to drag an honourable profession down to his own level. I much fear, sir, that there is a deliberate attempt being made to discredit the Dentists' Act, and to squander the Dental Registration Fund, and thereby indirectly to injure Dental registration. How far veteran wire-pullers and partisan advisers are to have their own way, must greatly depend upon the energy which the dentists display in their own behalf. There are strongly pronounced signs that the Medical Council is beginning to resent the dictatorial course adopted by one or two of its members; but that body does not meet very frequently, its sittings are necessarily expensive, and we should not leave those who take a favourable view of our proceedings to fight our battles without some effort on our part to help them if we can. Now, there are only two ways of doing this that I know of. One is to get up a sufficient fund for legal proceedings; one or two cases fairly thrashed out in a court of law would set the matter at rest, and show both friends and foes how they stand towards each other. In making this suggestion I am not speaking officially, but only uttering my private opinion on the subject. I think it a shame that the same men should be called upon again and again to guarantee funds for an object in which so many are concerned, yet this seems to me almost the only way by which we can promptly vindicate our position. The other plan, and certainly the most desirable, is so to strengthen the British Dental Association that it can discharge its functions in full. I need hardly tell you that at present it does not do so. The Association ought to have secured for itself what it has asked the Medical Council to do for it—but which, after all, only a court of law can efficiently do. It ought to be able, as it is wil-

ling, to test the validity of its views of the Dentists' Act, by obtaining judicial decisions on every point of importance which may be disputed to its prejudice. It ought also to have its whole business better managed. I know that the business of the Association is not so well conducted as it ought to be, communications are not replied to with sufficient promptitude, and I fear sometimes not at all, and this is simply because I cannot make the day of twenty-four hours considerably longer. Then again, with regard to the *Journal*, we have made much progress in its management lately, but considering the rapidity of events and the growing complexity of interests which it represents, a monthly issue is quite insufficient for our purpose. We ought to be able to publish the transactions of the day in detail, within a reasonably short time from the date, but in place of that, the editors on such occasions have to cut down much interesting matter, and leave other matter unpublished altogether, or else, what is even worse, publish it when the immediate interest of it has passed away. I need hardly tell you that the editors feel their responsibility weigh heavily upon them, and though they cannot undertake to publish everything that may be read or said at our meetings—for if they did that they would be abrogating the editorial functions, and leaving the literary standard of the *Journal* to chance, still they are most anxious to meet the views of the authors of papers to the utmost so far as the resources at their disposal will admit. It is proposed in the present instance to increase the size of the next few numbers, if need be, and so to meet the difficulty, but it must be obvious to all that to bring out the *Journal* weekly, or even fortnightly, would be a tax upon voluntary labour which we have no right to impose, and, in fact, which could not be borne. If we could muster 1,200 or 1,500 members, as we ought to do, all this might be accomplished without this perpetual strain upon the energy of those who now work for us gratuitously, much to the detriment of their personal comfort, and at the sacrifice of that leisure time which is so enjoyable after a hard day's professional work. I hope that this good time may come; it is this hope that must sustain us in our efforts to bring it about. Of this we may be all sure, that hoping and wishing alone are of no avail; but that if every district in the three kingdoms would do its duty as the Midland District has done, we would soon be able to realise that desirable condition of affairs which seems now so far distant. Gentlemen, I thank you for having listened to me so



long, and again I thank you for the honour you have done me this evening. I will not detain you longer, but only to say that though comparatively a small body our quality is good, and our influence is beginning to tell. We are listened to with courtesy by the various licensing bodies who grant Dental diplomas, we have a hearing in the Medical Council and in the election for an examiner to the Dental Examining Board of the Royal College of Surgeons of England, that great influential body did not think it beneath its dignity, to ask the British Dental Association to recommend such persons as it might think qualified to fill this important post. Our next annual meeting will be held in London, and connected, in a certain degree, as it will be, with the International Medical Congress, must be a most interesting one; and I trust that the Section XI. of Diseases of the Teeth, will not be the least successful of the many Sections into which it is divided.

Mr. ROFF KING next proposed: "The President of the Medical Society and the Local Charities of Liverpool." To mention all the local charities, he said, would take a long time. He understood they were twenty-four in number. Amongst the most important were the Royal Infirmary, the Royal Southern Hospital, the Northern Hospital, the Eye and Ear Infirmary, the Hospital for Consumption and Diseases of the Chest, and last, though not least in its sphere of usefulness, the Dental Hospital. The medical gentleman who had instituted and been the mainstay of the medical charities had set them, as dentists, a great example which they were endeavouring humbly to follow. Every institution of any considerable size had now its Dental Surgeon. He hoped that Manchester would soon have a Dental Hospital, though he could not hope that it would be at present anything like the one Liverpool could boast of, which filled him with surprise and astonishment. He proposed with great cordiality "The President of the Medical Society and the Local Charities of Liverpool."

Mr. REYNOLD HARRISON, on rising to respond, was loudly applauded. He thanked the company very much for the manner in which they had toasted the Society to which he had the honour to belong. He thought they would believe him to be perfectly genuine in saying that, as soon as the desire of their Association to have the use of the Medical Institute for their meeting was notified to him and his colleagues, they accepted with alacrity his proposal that it should be granted. He was sure he need hardly mention this as illustrating the cordiality that he believed existed between

the Members of these two great professions. He should not detain them with many observations at that late hour of the evening; but he could not help congratulating the Dental Association that they had, as Mr. Turner had told them, the ear of the Medical Council. All he could say was that he wished his society had. He thought the Medical Council had too much to look after in promoting the interests of the corporations which the respective individuals represented, to give either the Dental Association or the Medical Society very much time or attention. He could not help congratulating the Association upon the great success which had already attended its efforts. He should just like to mention one little point in reference to the day's proceedings, because it showed the position of another society very forcibly. Twenty years ago the British Medical Association met in Liverpool, and they conducted all their proceedings in the same building that the Dental Association had that day occupied. The Medical profession of Liverpool were in yearly expectation of another visit from the British Medical Association, but during the interval of twenty years that Society had grown with such enormous rapidity that they would not for one moment think of entertaining it unless the corporation of Liverpool placed at their disposal St. George's Hall. Might such be the fate of the Dental Association; but at any rate, though his term of office as president of the Medical Society was now very nearly over, he was sure that as long as the Association remained sufficiently small to be accommodated within the Institute, it would always be placed at their disposal with the greatest possible pleasure.

Captain W. J. NEWMAN also responded. He thought the citizens of this great city ought to be proud of the valuable institutions that existed amongst them. Some of them had been enumerated by Mr. King, but he had forgotten to mention the valuable School of Medicine, a school that was renowned for its teaching, and which had on its books the names of many former pupils who now occupied eminent positions all over the globe. Next of kin to the noble profession of Medicine was the profession of Dentistry. Allusion had been made to the Liverpool Dental Hospital. It afforded him much pleasure to inform them that that institution stood the third on the list of Dental Hospitals established in this country. London was the first to inaugurate a Dental Hospital, Birmingham established the second, and Liverpool the third. On the 20th of September next, the Liverpool Hospital would attain

its majority, and, after twenty-one years of hard work, he thought it was now on a sound basis. Seeing the altered, and he trusted improved state of the Dental profession, he thought Dental Hospitals were indispensable. The legislature having stepped in, those who thought proper to adopt the Dental profession in the future would not only have to obtain a diploma in Dental Surgery, but they would also have to matriculate and pass in arts and sciences. He thought this was one of the grandest steps which had been taken in regard to the improvement of the status of the Dental profession. He begged to thank the Chairman for having done him the honour to couple his name with the toast.

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### General Medical Council.

*Thursday, April 28th, 1881.*

#### DISCUSSION ON THE ADMISSION OF ADDITIONAL QUALIFICATIONS ON THE DENTISTS' REGISTER.

ON the motion of Dr. PITMAN, seconded by Dr. AQUILLA SMITH, Dr. Haldane was elected a member of the Dental Committee, in place of Dr. Andrew Wood, deceased.

A letter from the Secretary of the British Dental Association enclosing a resolution of the body, thanking the Medical Council for the prompt consideration it had given to the elucidation of certain provisions of the Dental Act was then read, and directed to be entered on the minutes.

The REGISTRAR then proceeded to read applications from some thirty registered dentists, who also held medical or surgical qualifications, requesting that such qualifications be added to their descriptions in the Dentists' Register.

Dr. STORRAR, in moving "that every registered Dentist holding any of the surgical qualifications recited in Schedule A of the Medical Act shall be entitled to have such qualification or qualifications recorded on the Dentists' Register as evidence of the possession of a higher degree of knowledge," said: I do not know that there is much for me to say upon the subject of my motion, seeing that you have the letters of Mr. Tomes and Mr. Turner before you, but I will simply say that we have the honour and professional reputation of this body of Dentists in our hands, and

that we are bound to be careful as to those who come before the public with special recommendations. It has been said in one of the letters that any person having a qualification in the Medical Register is qualified to practise as a Dentist. A person entered on the Dentists' Register is entitled to practise, but he is fully entitled to put before the public any additional qualifications which are calculated to impress the public with the idea that he has higher qualifications. After all, a certain portion of the education of a Dentist is common to the Dentist and the Surgeon, and if a Dentist, after having passed his examination for a license, should go still further on with his studies and become a member of the College of Surgeons or a member of any of the bodies enumerated in Schedule A, he would be holding a qualification of a higher kind than a mere Licentiate in Dental Surgery, seeing that he is qualified even by the fact of his being a Surgeon to practice without being a licentiate in Dental Surgery. What is the object of a Dentists' Register? It is to enable the public to see who are declared to be qualified and who are not. A person therefore looks to the Dental Register just as he looks to the Medical Register and sees what the qualifications are of particular dentists; if additional qualifications were recorded there, it would be an element in the consideration of the person inspecting the Register whether he should prefer one man to another. I do not go into the nice question raised by the lawyers as to what is a higher qualification in Dentistry, and whether it must be a higher qualification in Dentistry apart from anything else. I do not think it is a question to be settled in any way of that kind, but that it should be considered as a professional question. The question is, shall we consider that a Dentist is better qualified who has, in addition to his license as a Dental Surgeon, the Diploma of the College of Surgeons of England for instance, and if we think he is better qualified why should not that diploma be recorded on the Register?

Professor TURNER said he was prepared to second the motion if Dr. Storer would agree to the insertion of the word "surgical," and so make the resolution to read in this way: "That every registered Dentist holding any of the Surgical qualifications recited in Schedule A."

Dr. STORRAR accepted this alteration in the motion.

Dr. QUAIN said the first question was whether Dr. Storrar was intending to rescind a former resolution to be found in Vol. 16 of the Minutes of the Council, page 199, viz.: "That the column for



additional diplomas, memberships, degrees, licenses, or letters be omitted in the 4th edition of the Dentists' Register.

Professor TURNER said that the resolution did not touch the present motion.

Dr. QUAIN: Yes it does, most decidedly.

Prof. TURNER: As I have seconded the motion, and as an explanation is asked for by Dr. Quain, I will just say this. He states that this motion of Dr. Storrar's would require the Council to rescind a resolution passed on the 26th March, 1879. I think I shall be able to show that the resolution then passed by the Council is not rescinded by the motion now proposed by Dr. Storrar, but even if it were I see no reason why this Council should not reconsider the matter if it sees fit to do so. However, I will point out that they are not conflicting resolutions. The motion which was agreed to, which is mentioned here on page 199, is to this effect: "That the column for additional diplomas, memberships, degrees, licenses or letters be omitted in the fourth edition of "Dentists' Register." Now observe the phraseology of that motion. It is that the column for additional diplomas, &c., be omitted. Dr. Storrar's motion has nothing to do with the column.

Dr. QUAIN: It is the same thing really.

Prof. TURNER: The next motion is "that in consequence of the Counsel's opinion, the Registrar do not make entries in the column headed 'Additional diplomas, membership, licensing, degrees, or letters.'" In that case it was proposed that there should be a second column for these additional degrees. Dr. Storrar, as I understand, does not make any such proposition. He merely asks you to say "That every registered Dentist holding any of the qualifications recited in schedule A of the Medical Act shall be entitled to have such qualification or qualifications recorded on the Dentists' Register as evidence of the possession of a higher degree of knowledge. The motion does not say recorded in a separate column. I would follow out the argument which Dr. Storrar has put forward by asking you to refer to sub-sections 2 and 6 of section 11 of the Dental Act. When we were discussing the general question appertaining to the Dentists' Register at our meeting in February, sub-section No. 2 never entered into our consideration. What we discussed on that occasion was the meaning of the words, "Either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy," and also the meaning of the words of sub-section 6.

Sub-section 2 which empowers the Medical Council to put on the Register such particulars, and to make the Register in such form as the Council shall from time to time think fit. Turning to the opinion of the Solicitor General and Mr. Muir Mackenzie on the question submitted by the General Council to them, the Solicitor General and his colleague say : "We think that the only additional qualifications which should appear on the Register are those which express or imply fitness to practice Dentistry." Now I ask whether the possession of a surgical qualification over or above the possession of the title of licentiate in Dental Surgery does not imply a superior degree of fitness to practice Dental Surgery. There is nothing which prevents us from adding (I do not say in a separate column) after the special Dental qualification, whatever that may be, these additional qualifications implying a higher degree of surgical knowledge, and which show that the Dentist is a Member or Fellow of the College of Surgeons, or a graduate in Surgery of a University. We are doing a piece of injustice to those members of the Dental profession who are something more than Dentists, by not authorising the appearance after their names of those qualifications which represent a higher degree of surgical knowledge, such as I have referred to.

Dr. QUAIN said if the privilege was to be given of recording surgical qualifications, he did not see why medical qualifications should not also be registered. Medicine had as much to do with dentistry as surgery had, but the question was really a dry question of law. It was resolved formerly by the Council that the higher qualifications should be entered on the Register in a separate column, but then the Council wisely, before undertaking to do what they thought they had no right to do, resolved that the opinion of Counsel should be taken on the question, and the Solicitor of the Council was directed to obtain a legal opinion upon the point. That was done, and Mr. Charles Bowen the present Judge stated that in his opinion section 11. sub-section 6., gave power to the Medical Council to register higher qualifications only in Dentistry and not in other subjects. The Council thereupon resolved to omit the registration of additional qualifications. The question was fully discussed at that time, the opinion of Counsel was taken upon it, and the present motion was an attempt to re-open the whole thing. The Registration of additional qualifications could only be effected by an amending Act of Parliament.

Mr. SIMON said he thought the introduction on the Dentist's

Register of the sixty-two different titles, which were recognised by the Medical Act, would be at least inconvenient. They were not justified in assuming as a universal law, although no doubt instances might be quoted, that because a man was a member of the College of Surgeons he was a better Dentist. As a Surgeon he should certainly not venture to maintain that as a universal proposition. If they were to extend the meaning of sub-section 6, and were to interpret a higher degree of knowledge as meaning something besides Dental knowledge, where were they to stop? If a man was a licentiate of Midwifery, were they to put that in, and if not why not? or if a man were a Fellow of the Royal Society, were they to put that in, and if not why? Where was the line to be drawn? He was quite satisfied reading the Act as a layman, apart from the legal opinion which the Council had to guide it, that the intention was that they should Register higher qualifications in Dentistry. If they were to go beyond that they would get themselves into difficulty, because they had legal opinions that they had no right to insert these qualifications. The matter had been fully considered on more than one occasion by the Council, and when the resolution was passed to remove the additional qualification column from the Register, it was not from an objection to the column as such, but from an objection to the principle of registering additional qualifications, and also in order to act in conformity with the legal opinion they had obtained, that they were not entitled to Register anything but higher Dentistic qualifications.

Dr. AQUILLA SMITH said he thought the Council should be cautious before it came to a conclusion upon this question. He wished to draw the attention of the Council to what was the real object of the Dental Act, and to do that it was only necessary to read the peramble, "Whereas it is expedient that provision be made for the registration of persons specially qualified to practise as Dentists in the United Kingdom." It was an important fact to recollect in the consideration of the case that this Register was to be exclusively for men specially educated as Dentists. There were 565 Licentiates in Dentistry Registered, and of those only 30 applied for the Registration of additional qualifications. That 30 was about an eighteenth of the entire body of specially qualified Dentists. He did not know whether the gentlemen other than the 30, were acquainted with the application made to the Medical Council, but if the Council agreed to allow the qualification of the

Royal College of Surgeons to be added to the special qualifications in Dentistry, it would create a feeling of hostility between the 30 and the remainder of the 565 Registered Dentists, because the 30 would be pointed out as men of better education. It appeared to him to be undesirable to create divisions amongst the Dentists in that way, although he thought the Council had the power legally to distinguish those who held additional qualifications from those who did not.

DR. BANKS said he agreed with Professor Turner that it was a hardship that a man who had such an education as enabled him to get the qualification of the College of Surgeons should not be permitted to add that qualification to his name on the Dentist's Register. He thought there ought to be some means of distinguishing those Dentists from Dentists who had not received so good an education. With regard to what Mr. Simon said, he could not agree with him in thinking that a man being a Surgeon he was not likely to make a better Dentist. He did not think there was the intimate connection between Dentistry and Medicine, as there was between Dentistry and Surgery. The College of Surgeons had undertaken the examination of Dentists, and if the Council could see its way to give the men who passed the examination of the College of Surgeons permission to record that qualification on the Register, it would be very desirable, and would tend to raise the standard of the Dental profession, which certainly was a desirable thing.

DR. QUAIN: Are you aware that a Surgeon can practice as a Dentist without being registered?

DR. BANKS: I was not aware of it.

DR. PITMAN said he should be sorry if the question were disposed of simply on the reasons already adduced to the Council. Those who had expressed a feeling against the proposal of Dr. Storrar, seemed to lose sight of the question at issue. They admitted to the fullest extent, that additional qualifications in Dentistry were registerable in the Dentists' Register; but the question was, who was to determine what was an additional qualification in Dentistry. He thought the Council was to determine that, because the Dental Act provided that the General Medical Council might, if it thought fit, from time to time make, or when made, revoke or vary orders for the registration or removal from the Dentists' Register of any additional Diplomas, Memberships, Degrees, Licenses or Letters held by a person thereon,



*which appeared to the Council to be granted in respect of a higher degree of knowledge [of Dentistry it should be] than was required to obtain a Certificate of fitness to practise.* The Council had to determine what was really a higher qualification in Dentistry, and the question resolved itself into this—is the Membership of the College of Surgeons of England a higher qualification as regards Dentistry? He should be somewhat influenced by the views which Surgeons took, as to whether the Membership of the College of Surgeons did or did not indicate a greater fitness to practice Dentistry. He thought it was for the Council to determine what constituted a higher knowledge of Dentistry, and not for the lawyers. Professor Turner thought that the Membership of the College of Surgeons was a higher qualification, and Dr. Storrar thought the same. He (Dr. Pitman) hoped that the Members of the Council connected with Surgery would give their opinions on that subject. Reference had been made to the power which a Surgeon had to practice Dentistry, and he would point out that there was a penalty imposed upon all persons, not registered in the Dentists' Register, who took the title of Dental Practitioner, or any other name implying that they were registered, if they were not registered; but then there was a proviso that that was not to apply to any person who was registered in the Medical Register. It was for the Council to determine which of the qualifications entered in the Medical Register evidenced a higher qualification in Dentistry, which would entitle the holder to have it added in the Dentists' Register as an additional qualification.

Dr. SCOTT ORR said it would be a very great hardship to deprive gentlemen who held the qualifications of any of the Colleges of the Surgeons from having those qualifications registered. It might be the fact that it was illegal according to the Act that those qualifications should be registered in the column for the description of the qualification in Dentistry which the applicants might hold, but he could not see that there could be any objection to those additional qualifications being entered in the same column, immediately after, and following the name of the individual claiming to be so registered. If a man is a Baronet, he could put Bart. at the end of his name, and he could add any other letters that he was entitled to put. He (Dr. Scott Orr) did not see that the Council could exclude those letters from being added in another column. With regard to Dr. Pitman's observation as

to the qualification of the College of Surgeons being a higher qualification, he should, at all events consider that it was quite equal to the Dental qualification ; and, therefore, that was another reason why it should be registered.

Mr. TEALE said it seemed to him that the Act contemplated that the Council was to decide what was a higher qualification in Dentistry, and if they thought that the qualifications in question were higher qualifications in Dentistry they were right in putting them on the Register. The question as to whether they were or were not higher qualifications might be looked upon in this way— if a person who had qualified himself to be on the Dentists' Register, also is or becomes a member of the College of Surgeons, he thought the Council should consider that person more highly qualified than a person who was simply on the Register, not a Member of the College of Surgeons.

Mr. SPENCE said that having practised Surgery and Anatomy for forty years he had no hesitation in saying that a man possessing the qualification of one of the Colleges of Surgeons was better qualified as a Dentist than a man who was a mere Licentiate in Dentistry. Every Surgeon must have had under his consideration cases where diseases of the jaw were at the root of apparently simple Dental cases. What was the object of registering Dentists? It was to give the public a list from which they could gather a knowledge of those who were well qualified to treat those diseases, and if one man was better than another in consequence of his higher qualifications, certainly that man, he thought, had a right to have his titles put upon the Register. Again, it had been said, "If you register one you must register another, and why not register a Licentiate of Midwifery?" but he thought the extraction of a foetus and the extraction of a tooth were very different things.

Dr. QUAIN: They both sometimes require forceps.

Dr. SPENCE: They are sufficiently distinct without going into that. Dr. Quain had said that he would not like to see Fellows of his College in any way connected with the Dental List, but he could say that there were men amongst the Dentists thoroughly educated, and thoroughly good men in all respects, and why should the public be prevented from knowing those men? On those grounds he supported the motion. As to the legal question he did not go into that.

Sir JAMES PAGET thought that any person who held a diploma

for the practice of Surgery was fitter to practise as a Dentist than one who held only a Dental qualification. The instances proving this were so numerous that it was hard to raise a doubt about it. The question as to what was proper to do with a particular tooth involved considerations other than what should be done mechanically, because disease of the teeth might arise from various causes—persons might be syphilitic or scrofulous, and in those cases the advantage of a surgical education was very great. It was true with regard to Dentistry, as it was true with regard to Surgery, that a man who was educated to treat one part of the body was not so good a judge of what to do as he who was educated to treat all parts. No man who directed his attention to only one part was capable of forming a correct estimate of the disease he was going to treat. The man who was educated to understand the diseases of the whole frame, and was so diplomatised, possessed higher qualifications for the practice of Dental Surgery than he who was educated to understand Dentistry alone. It would be in the highest degree advantageous to the Dental profession if the Members of it could be encouraged to seek a larger amount of knowledge than was included in their comparatively limited education. If they studied the whole knowledge of Surgery, they would be *pro tanto* fitter, and the Dental profession in England would stand higher than in other parts of Europe, in proportion as its members were encouraged to gain a general surgical education. If the Medical Council had the power, as Dr. Pitman thought they certainly had, to add higher qualifications in Dentistry, it was certainly their duty to do so.

Dr. McCLINTOCK agreed with what had fallen from Sir James Paget. He was one of those who held with Sir James Paget, and, he thought, all around the table, that, with a view to practise one speciality, the more wide and comprehensive a man's education had been; the better fitted he was to practise that speciality. It would be a very mistaken and retrograde movement if the Council were to throw any discouragement whatever upon men taking, not perhaps higher, but additional qualifications. Of course, the Council would not for one moment think of including any titles outside those recognised by the Medical Act, but he thought it would be a very great injustice to many Dentists in this Kingdom who had taken additional qualifications to those merely fitting them to practice as Dentists, if they were not permitted to record them after their names in the Dentists' Register.

He did not see that there was any legal difficulty whatsoever. The Council had registered additional qualifications before, and he did not see why they should not register them now.

Dr. HUMPHREY thought the whole question revolved round the little word "if." It was proper to enter additional qualifications *if* the Council had power to do so. The real question was, had the Medical Council the legal power? Would they or would they not be acting in uniformity with the Act in doing so? He had always felt that the Dentists' Register was to be a Register of Dental qualifications merely, and that the "higher qualifications" referred to were the higher Dental qualifications. The question was whether diplomas granted after examinations of other kinds were to be considered within the limits of the Act. The "higher qualifications" must be construed within the limits of the Act. There was the same provision in the Medical Act. "That every person registered under this Act who may have obtained any higher qualification, or any qualification other than the qualification in respect to which he may have been registered, shall be entitled to have such higher degree or additional qualification inserted in the Register, in substitution for, or in addition to, the qualification previously registered." It should not be forgotten that the Council originally added the qualifications in question, and that in consequence of Counsel's opinion they were compelled to omit them. The suggestion that they need not put them in an additional column was a mere quibble. He considered that a Surgeon would be a better Dentist than a man who was not a Surgeon, but that the qualification of the College of Surgeons was not a higher qualification than a Dentistic qualification. The Council had put the additional qualifications on the Register once; by Counsel's opinion they were taken off, and he did not think they should be put on again unless the Council had some good legal opinion that it would legally do so. His doubt was a legal doubt.

Mr. TURNER: Will Mr. Ouvry, who is present, tell us whether he has got the opinion that he submitted to Mr. Charles Bowen, because it will be very satisfactory for the Council to have the form in which the case for his opinion was stated.

Mr. TEALE said he sympathised entirely in every thing that had been said in favour of putting additional qualifications on the Register, but he could not vote for Mr. Storrar's motion. If he could believe that the Council had the power to decide whether



those additional qualifications were to be entered or not, he should have pleasure in doing so, but reading the Dental Act, and looking to the opinion of Counsel, he had no hesitation in declaring that in his opinion it would be illegal if the Council permitted them to be entered on the Dentists' Register. That there was a grievance he thought was plain, but it could not be set right except by an amendment of the Act.

Sir WILLIAM GULL said there seemed to be an idea in the minds of everybody present, that Dentistry was pulling out teeth. A man had got put upon the Register because he had pulled out 13,000 teeth, but he would remark that Dentistry was not pulling out teeth, but keeping them in. He should have thought that the Dentist would have been a better Dentist if he had had some Surgical knowledge. If the Council were going to enter Surgical qualifications, he thought Medical qualifications should be entered also. He fancied he should make a better Dentist with his Medical knowledge than he should without it.

Dr. QUAIN suggested that the case upon which the opinion of Mr. Charles Bowen was taken, should be laid before the Council by Mr. Ouvry, and was proceeding to address the Council, when

Dr. STORRAB said that Dr. Quain had been consistently opposed to the Dentists throughout, and he did not think his conduct was fair.

Dr. QUAIN: I am going to tell the Council why I ask that question. There are a great many persons outside, Members and Fellows of the Royal College of Surgeons, who will be quite prepared to contest the legal point if you make a mistake.

Mr. TURNER said as so very much importance had been attached by the other side to the opinion which was given by Mr. Charles Bowen, he thought that although the opinion was communicated to the Council, and printed in the minutes, it was a most important thing that the Council should hear the case which was submitted to Mr. Charles Bowen, and upon which he came to a conclusion upon this question.

Mr. SIMON said if the Council adopted the view of Sir James Paget, that the Dental qualification of the College of Surgeons was an insufficient or defective qualification in Dentistry—

Sir JAMES PAGET: I said nothing of the kind.

Mr. SIMON: The language you used was to that effect I think.

Sir JAMES PAGET: I said he who is a Dentist and a Surgeon is better than he who is a Dentist alone.

Mr. SIMON : It is for us to determine what is a higher qualification in Dentistry, and I think we have to do that within the limits of the Dental Act.

Sir WILLIAM GULL thought a man who was acquainted with the diseases of women and children would know better whether a child's tooth was to be lanced, or whether it was to be removed than a man who was not so acquainted.

Dr. STORRAR said as it had been suggested that Medical qualifications should be included, he had no objection to put in his motion "Medical as well as Surgical qualifications."

Mr. TURNER said he should be quite satisfied if the word "Surgical" were struck out altogether.

Sir WILLIAM GULL: If you put in any qualification in addition to a Dental qualification, it should be a general qualification.

The PRESIDENT pointed out that the original motion was as wide as possible. "That every registered Dentist holding any of the qualifications recited in Schedule A," &c.

Dr. QUAIN : I move that the opinion of the Council be asked as to whether Mr. Ouvry's opinion or advice be taken now. We cannot hear Mr. Ouvry's opinion after Dr. Storrar's motion is put.

Mr. SIMON agreed that the opinion of Mr. Ouvry should be taken before the motion was put to the vote.

Dr. PITMAN said when he expressed his opinion, it was upon the motion that was then before the Council. If the mover and seconder of that motion so worded it that a person who held a midwifery qualification was to be looked upon as holding a higher qualification than a Dental qualification, it was ridiculous.

The PRESIDENT called upon Dr. Storrar to say which of the two motions proposed he would leave to the vote of the Council.

Dr. STORRAR said he candidly owned his great desire to give Dentists the option of distinguishing themselves in the Dentist Register by putting higher qualifications. He thought it would be perhaps best to take the qualification in Surgery as the test, and add the word "Surgical" to the motion as originally proposed by him. He said he had been struck with one fact in the debate in which a great deal of sagacity had been shown, that some of the Members of the Council seemed to overlook the fact that throughout the Act Dentistry was recognised as a branch of Surgery. Dentistry and Dental Surgery were treated as convertible terms. What was Dental Surgery but a qualification in Surgery conferred by the College of Surgeons? If that was not a qualification in Surgery

what was? The Act empowered the Council to insert "Higher Qualifications." He did not know of any higher qualification in Dental Surgery in this country, than the qualification of the College of Surgeons. He was astonished to hear Mr. Simon, who was generally exceedingly logical in his speeches, say that the Council might just as well put in the Fellowship of the Royal Society. That had nothing on earth to do with Dentists. It was only reasonable that if the College of Surgeons examined a gentleman as to his knowledge of Dental Surgery and then conferred a higher qualification on him, the Medical Council should allow the person holding that qualification to be put on the Register with that higher qualification if he required it. The Act said that Dentistry was Dental Surgery. The most extraordinary objection was that raised by Dr. Aquilla Smith, who said that the 500 licentiates in Dental Surgery would be jealous of those who were Registered with additional qualifications, but he would ask were the members of the College of Physicians and College of Surgeons in London, jealous because some gentlemen had been raised to the Fellowship of the Colleges of Physicians and Surgeons. He did not think anything that he could add would give weight to the statements that had been already made. He was prepared to go to a division upon the merits of the question. His firm conviction was, that not only on professional grounds but on strictly legal grounds, the applicants were entitled to have their other qualifications Registered.

Dr. QUAIN renewed his suggestion that the Council should take Mr. OUVRY's opinion as to their power to act in the matter, and after some discussion the proposition was agreed to.

Mr. OUVRY said he would call attention to that which had already been adverted to, that the Council had put on the Dentists' Register an additional column in which it had entered these diplomas, memberships, licenses, and so on, and that by a resolution of the Council that additional column had been omitted, so that now there was only one column. He would call attention to the 11th section of the Dentists Act, sub-section 2, which said "The Dentists Register shall contain the said lists made up alphabetically according to the surnames, and shall state the full names and addresses of the persons and the description and date or qualifications in respect of whom they are registered, and subject to the provisions of this Act shall contain such particulars, and be in such form as the General Medical Council shall from time to time

direct." Then by the 6th sub-section, additional diplomas, memberships, degrees, licenses, letters, which appeared to the Council granted after examination in respect of a higher degree of knowledge than was necessary to obtain a certificate of fitness to practice under the Act, might be erased from or added to the Register. Those were not additional qualifications in any sense, but only qualifications which might be registered under the Act like a licentiatehip in Dental Surgery or Dentistry, and the fact of practice before the passing of the Act. The Council could not put into the existing column of the Register any additional titles ; it could only put the qualifications which entitled persons to be registered under the Dental Act, that was quite clear. If the Council wished to put these additional degrees in, it must either restore the additional column or it must put them in the first column after the name as was suggested by Dr. Scott Orr. It appeared to him (Mr. Ouvry) that the additional entry to be made on the Register, must imply a higher degree of knowledge in Dentistry than that which was implied by the licentiatehip. It was for the Council to consider whether the examination which a licentiate in Dentistry passed in order to obtain that license, was or was not equal to or higher than the examination which enabled a person to obtain the qualification of the College of Surgeons.

Mr. TURNER asked whether the additional qualifications might not be entered in the first column.

Mr. OUVRY: Not as additional qualifications, the question is whether you have a right to put anything of that sort on the Register at all.

The PRESIDENT having pointed out to the Council that the resolution did not specify where the additional qualification was to be placed, put the motion, which was carried by 13 against 5.

Dr. STORRAB, in answer to the President, said he had not considered where the qualification was to be entered. It was a matter of profound indifference to him, as well as to those gentlemen who were to be allowed to put additional qualifications on the Register.

Dr. PITMAN then moved "That the additional surgical diplomas, memberships, degrees, licenses, or letters be entered in the fourth column of the Dentists' Register, and after the original entries."

Mr. TURNER seconded the motion.

The PRESIDENT suggested that the solicitor, having some doubt on the subject, should be at liberty to give the Council any further information before the Council concluded its business



An amendment was then moved by Dr. SCOTT ORR, and seconded by Dr. McCLINTOCK: "That any additional diplomas, memberships, degrees, licenses, or letters be entered in the name column." This amendment on being put was declared to be lost, and the original motion was then put and carried.

The following communication from the British Dental Association was then read, and directed to be entered on the Minutes:—

"40 Leicester Square.

"To the GENERAL MEDICAL COUNCIL:—

"GENTLEMAN,—The Dental Committee of the GENERAL MEDICAL COUNCIL having pointed out, in the report read at a meeting of the Council on February 3rd, 1881, that in the list of persons submitted by the British Dental Association, as being falsely and fraudulently registered in the *Dentists' Register*, are the names of persons who are Chemists' and Druggists' apprentices; and the SOLICITOR-GENERAL and Mr. MUIR MACKENZIE having stated in their joint opinion (which in other points has been acted upon by the Council) that Chemists' apprentices cannot claim registration on the *Dentists' Register* (see opinions marked II. in the *Minutes* of the GENERAL MEDICAL COUNCIL, question and answer D., vol. xviii. p. 35);

"We, therefore, on behalf of the British Dental Association, respectfully ask that the Council will cause to be removed from the *Dentists' Register* the names of such Chemists' apprentices.

"JOHN TOMES.

THOMAS A. ROGERS.

"EDWIN SAUNDERS.

JAMES PARKINSON.

"THOMAS UNDERWOOD.

JAMES SMITH TURNER, *Hon. Sec.*

"*Business Committee of the British Dental Association.*"

The Council then adjourned.

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#### GENERAL MEDICAL COUNCIL.

*Friday, April 29th.*

On the President moving that the Minutes of the last meeting be confirmed, Mr. Simon said, with reference to the dentistic matter, which was under discussion the day before, he thought it the duty of the minority to pay obedience to the majority; but in this particular case there was a question of law concerned, and he would like to know whether it was not open to the minority to put on record the fact that they did not assent to the confirmation of the Minutes. Where a resolution had been passed in the face of legal opinion, he thought those who sided with the legal opinion

ought to be able to put on record the fact that they dissented so far from the confirmation of the Minutes.

Dr. STORRAR said he must confess he could not follow the reasoning of Mr. Simon. The minutes were simply a record of what occurred at the meeting, and the confirmation of the minutes was simply a statement of the Council at its next meeting that those minutes were accurate.

Dr. QUAIN said he was never at any meeting at which, when a resolution had been previously passed and acted upon, and another resolution was proposed the very opposite of it, the first step was not to rescind the former resolution. Dr. Storrar who had great experience at the University of London as Chairman of Convocation, would no doubt admit that the rule was that the first step was to rescind the former resolution. The Council had not done that, and he would therefore ask the President to ascertain what the rule with regard to that point was, and if the Council met tomorrow to communicate it to them.

The PRESIDENT said if Dr. Quain would hand in the question in a written form, he would take care that the best obtainable answer was communicated to the Council at its next meeting. There was nothing bearing on the question in the Standing Orders. With regard to Mr. Simon's question, which was rather in the nature of a protest, those who wished to protest had only to vote against the confirmation of the minutes. If the majority of the Council was in favour of the confirmation of the minutes, then the minutes would be confirmed. As to the facts of the case, he had always understood as President, that the confirmation of the minutes amounted to a statement, that what was contained in them had taken place, and that any member of the Council objecting to the confirmation of the minutes, was bound to show that the minutes were inaccurate. Then Mr. Simon raised by his question a further point, namely, whether a minority had not the right under very special circumstances, to make a distinct protest. He would point out that the protest was as distinct as possible, because the names of all who had voted against the resolution had been taken down, and were printed in the minutes.

Dr. PITMAN enquired whether on any former occasion a protest had been made.

The PRESIDENT said that no protest had been made before.

Mr. SIMON said the question was as to the completeness of the

minutes, which were as follows : " That every registered Dentist holding any of the Surgical qualifications recited in Schedule A of the Medical Act, shall be entitled to have such qualification or qualifications recorded on the Dentists' Register, as evidence of the possession of a higher degree of knowledge (See Dentists' Act, Section 11). Dr. Quain required that the names and numbers of those who voted for and against the motion respectively, and of those who did not vote, be taken down." There was no mention there that Mr. Ouvry was called upon to advise the Council, as he thought there ought to have been, and which would if inserted there, have explained the attitude of the minority.

The PRESIDENT : It is unquestionably within the power of any Member of the Council to suggest that these minutes do not accurately represent what took place, and to suggest for the consideration of the Council the addition or omission of such words as they thought fit.

Dr. AQUILLA SMITH said that the record of what took place was not complete. He should support Mr. Simon and Dr. Quain because the fact that Mr. Ouvry had been appealed to by the Council was very important indeed, and should be recorded.

Mr. TURNER : Did not Dr. Quain move that Mr. Ouvry's opinion be taken ?

The PRESIDENT : It was not put from the Chair, but I, as I have very often done before, requested Mr. Ouvry to give his opinion.

Mr. SIMON then moved " that before the words ' Dr. Quain required the words,' &c., a sentence be introduced stating the fact that Mr. Ouvry was at this stage requested to legally advise the Council, and describing the purport of the advice which Mr. Ouvry gave."

Dr. QUAIN seconded the amendment.

Dr. PITMAN : Would not it be more accurate to say that Mr. Ouvry was asked " to give his view of the legal interpretation of the clause."

Mr. SIMON : Is not that legal advice ?

Dr. PITMAN : No, we should not have gone against legal advice.

Dr. STORREAR asked whether it was proposed to insert the statement of Mr. Ouvry's opinion to be prepared afterwards by him.

Mr. SIMON : I want to insert in the Minutes a statement ; first, that Mr. Ouvry was requested legally to advise the Council, and, secondly, that he advised to such and such an effect.

Dr. STORRAR said he had no objection whatever to a record of the fact that Mr. Ouvry was requested to state his views, but he did object to Mr. Ouvry being asked to prepare an opinion which would really reflect upon the decision of the Council. They all knew perfectly well what they were doing when they passed the resolution. They were acting in conformity with the practice of the Council on all former occasions, and there was nothing to complain of.

Sir JAMES PAGET suggested that the difficulty might be got over by recording the fact that Mr. Ouvry's opinion was asked, and that he gave it. He thought there would be an objection to putting Mr. Ouvry's opinion, because it would be rather unfair to put Mr. Ouvry's argument on the one side, and not to record Dr. Pitman's argument on the other side.

Dr. QUAIN thought it was but right that the opinion should be given. He did not care so much that it should be on the minutes, but he thought the Council ought to have some record of it.

Dr. STORRAR said he was speaking and acting yesterday upon a view which he considered as good as Mr. Ouvry's; and after the whole matter had been decided by a very distinct majority, for the minority to step forward and attempt to prove that the majority had been legally wrong, was not a proper thing.

Mr. TURNER enquired whether Mr. Simon's amendment meant that Mr. Ouvry's opinion was to be inserted on the minutes.

The PRESIDENT: Yes.

Dr. STORRAR: I am not allowed by the standing orders to move an amendment upon an amendment, but I give notice in the event of this amendment being carried, I shall move "that all the words after the words 'requested to legally advise the Council' be omitted."

The PRESIDENT said, it might be as well to draw the attention of the Council to what had occurred on other occasions. Generally speaking, when the advice of the Solicitor was requested on important matters, it was given in the form of a written communication; for instance, he found this on the minutes, "Mr. Ouvry attended on the Committee, and stated the effect of Counsel's opinion on the question as regards the Dentists' Register, submitted to them by the General Council."

Dr. QUAIN: The Counsel's opinion is, of course, recorded?

The PRESIDENT: No, it is not.

Mr. SIMON: I should be satisfied with that form if it referred to



the opinion specifically, and stated the effect of Counsel's opinion. I desire that what actually passed should be recorded because that would explain the position of the minority. Dr. Storrar spoke of Dr. Quain as having from the beginning to the end been actuated by a strong feeling against the Dentists. I have no such feeling; I have been doing everything in perfect sympathy with Mr. Tomes, and those who have been trying to convert the Dentists into a liberal profession; but it is one thing to do that, and another thing to put myself into an illegal position.

Mr. MACNAMARA thought that what would meet the feelings of a great number of the Members would be a statement of this sort: "That on Dr. Quain's motion Mr. Ouvry was called in, and asked to give his interpretation of the Act as it bore on the question; a division was then taken on the motion, when there appeared to be so many in favour of it." What Sir James Paget said was forcible, that if Mr. Ouvry's opinion on the one side were inserted, the opinions put forward on the other side should be inserted also, but he thought a statement of the fact that Mr. Ouvry was called in, and asked to give his interpretation of the Act, ought to satisfy all parties.

Mr. SIMON: It is the legal opinion I am referring to.

The PRESIDENT said the Resolution left some person to perform a duty of considerable difficulty; namely, to get the advice of Mr. Ouvry, and put it on the Minutes. If the Council imposed the duty on him, he should endeavour to discharge it to the best of his ability, and he should do so after consultation with Mr. Ouvry. He had some doubt whether the Minute as it now stood ought to be accepted.

Mr. SIMON said the correction would be made usually by the registrar under the direction of the president. He would just like to make a modification in the amendment.

The PRESIDENT suggested that other business might be proceeded with.

Dr. STORRAR: I see clearly what the object is—to give to the minority of yesterday an advantage over the majority. (No! no!) It is so; and I, therefore, object to the Council proceeding with any other business until the confirmation of yesterday's Minutes.

Dr. QUAIN: My sole motive is to keep an accurate record of our proceedings of yesterday.

Mr. SIMON then handed in his revised amendment "That Mr. Ouvry was at this stage requested legally to advise the Council,

and that he advised against the legality of the proposed addition."

On this being put to the Council, it was negatived by ten votes to five.

Mr. MACNAMARA then moved as an amendment "That the polling should be inserted in the Minutes 'Before Dr. Storrar's motion was put, Mr. Ouvry was asked to give and gave his interpretation of the Act as it bore on the proposed motion,'"

Dr. McCLINTOCK seconded the amendment. The Council did not call upon Mr. Ouvry legally to advise it, but simply asked him to give his interpretation of the Act.

Mr. MACNAMARA's amendment was then put and carried, and with the addition of those words the Minutes were then agreed to.

The Council then proceeded with other business.

The following report by the Dental Committee was then read:—

"With reference to the case of Alexander Schocke, the Committee finds the following facts: "This person is a German, and his position is analogous to that of Ackermann and Leopold, his shop being of the same character. He has been seen by the solicitor of the Council, and he states that he was apprenticed at Posen to learn Dentistry, and he produced a certificate of his having done so. He further stated that he served as Dentist at a hospital at Breslau for eighteen months, and subsequently at a military hospital at St. Petersburg, where he has drawn thirty or forty teeth in a day. Subsequently, at Berlin, he attended a course of lectures on anatomy. He drew many teeth while keeping a shop at the East-end of London, where his skill as a Dentist was known; but since his removal to Rathbone Place his practice has been much less, he being not yet known in the neighbourhood."

A motion was then carried: "That no sufficient cause has been shown for the removal of the name of Alexander Schocke from the Dentists' Register."

With regard to the cases of David Hughes and Henry R. C. Kidner, a resolution was passed: "That they having completed their apprenticeships before the passing of the Act, they are duly registered," and the Council adjourned.

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## GENERAL MEDICAL COUNCIL.

*Saturday, April 30th, 1881.*

The minutes of the last meeting having been read and confirmed,

Dr. QUAIN asked the President the following question: "A resolution was adopted by the General Council on March 26, 1879, having reference to an important feature in the formation of the Dentists' Register; a resolution entirely altering the resolution referred to was adopted by the Council on April 28, 1881. The question is—Is it or is it not correct, as a matter of order, "that an original resolution should be rescinded before a new resolution is proposed?" To this question the President gave the following answer: "In answer to the question put to me by Dr. Quain, I have to state that according to such usages as I can ascertain, it would be generally more strictly regular if an original resolution be rescinded before a new resolution is proposed. In the case referred to on this occasion, if a resolution had been framed setting forth that the resolution of March 26, 1879, was rescinded and the resolution of April 28, 1881, substituted, it might perhaps have been the better course. But inasmuch as the latter resolution does in fact rescind the former, the course suggested was not necessary. The President stated that the Registrar had submitted to him the following questions, in regard to the Council's resolution in clause 9 of the minutes of April 28, 1881—(a) Are registrable surgical diplomas that are not registered in the Medical Register to be entered in the Dentists' Register? (b) What are to be considered as Surgical qualifications? For instance, is the license of the Royal College of Physicians of London to be considered such as a Surgical qualification, registrable in the Dentists' Register?

Dr. PITMAN said he thought it was scarcely to be expected that the President of the Council should answer questions which involved legal interpretation. It would not be right to leave the President under the responsibility of answering those questions without the assistance of the solicitor, and he would therefore move "That the President be authorized to answer these questions after consultation with the solicitor of the Council." In this particular case the proper course would be to rest wholly on the advice of the solicitor, although the Council had not done so the other day.

Dr. HALDANE seconded the motion.

Dr. QUAIN said the other day some Members of the Council thought that the Council was the proper body to decide what was a Dental qualification. Now it was asking the solicitor what was the definition of a Surgical qualification. It would be better to say that qualifications already registered might be put in.

Mr. SIMON said, there should not be any doubt about the position in which the Chairman of the Business Committee proposed to put the Council. The resolution passed the other day was understood by those supporting it to refer to a determined class of persons, and now, instead of that determined class of persons, they had substituted the algebraic  $x$ , or an unknown class of persons, to be defined by the President in conference with the Solicitor.

Dr. STORRAR said, he did not see any difficulty about the question. The Council had had a great deal too much law on this subject, and its common sense was very much preferable. In Henry VIII.'s Charter to the College of Physicians, there was a distinct declaration that the science of Medicine included Surgery. The license of the College of Physicians was a license which was given after examination in medicine and surgery, and surely, that was a surgical qualification, and ought to be permitted to be entered in the Dentists' Register.

Mr. TURNER said, the Government, in sanctioning the giving of surgical qualifications by the College of Physicians, had committed a very great and serious injustice to the Scottish Universities because the M.B. degree of the Scottish Universities was a degree which was granted after an examination in surgery as well as in medicine and other subjects, and yet the Local Government Board would not accept the Bachelorship of Medicine of the Scottish Universities as a surgical qualification; the Faculty of Physicians and Surgeons of Glasgow also was, as its name implied, a Medical and Surgical body, and yet its qualification was only a qualification in surgery. An injustice was, therefore, done to that body also, and the sooner the College of Physicians ceased to be regarded as a body qualifying in surgery, as well as in medicine, the better.

Sir WILLIAM GULL thought that if the license of the Royal College of Physicians of London was not to be considered as a Surgical qualification, the Council would be doing very great injustice to the men who had obtained that qualification. The Council was assuming that Dentistry and Dental Surgery was the



same thing ; he thought they were two separate things, and, again, the idea seemed to be that Dentistry consisted in pulling out teeth, whereas he thought that the business of a Dentist was to save teeth. The Council had been moved by sentiment to do justice to the Dentists, although they, no doubt, at the same time had erred against the legislature. Probably they were quite right in what they had done, but as they were now to be governed by their sentiments, their sentiments should take them further, and lead them to say that all degrees reasonably entitled to appear on the Medical Register should appear on the Dentists' Register. If a man was a member of the University of London, or a licentiate of the College of Physicians, it would be only fair to the public that his name should appear as such. In the same way a qualification to practice midwifery should appear, because a man was a better Dentist who had a knowledge of the diseases of young children, and the way their teeth were affected by disease, than a man who had not such knowledge.

Dr. STORRAR: Will you move that Medical qualifications be also inserted ?

Sir WILLIAM GULL: I intended to do so.

Dr. QUAIN inquired whether such a motion could be made without a motion rescinding former resolutions to the opposite effect.

Dr. SCOTT ORR said he should be prepared to second such a resolution as Sir William Gull proposed. He saw no reason why the degrees of Universities or other medical qualifications should not be put on the Dentists' Register.

Dr. STORRAR: I shall certainly vote against this motion of Dr. Pitman's. The matter is a purely professional question. We have made up our minds to disregard the opinions of the lawyers upon this subject, upon grounds which I consider infinitely more satisfactory than the grounds given by the lawyers. I think the course we took the day before yesterday was the proper course, and we should be moving in a circle if we were to have this matter referred to men whose opinions are already known. The motion is merely an attempt to get rid of the resolution of the Council which was passed the day before yesterday, and I shall therefore vote against it, hoping that those who supported my resolution will vote against the present motion also.

Mr. TURNER said he thought Dr. Storrar had taken too strong a view of the purpose of the motion before the Council. If the

Council agreed to it, he did not think it would be acting antagonistically to the previous resolution. It was a motion merely affecting a matter of a form, and not a motion affecting a great question of principle—which was the way in which he looked at the motion carried on Thursday. The present question was merely an administrative question. The President wished to know what were to be considered as surgical qualifications, and the motion merely empowered him to confer with the Council's legal adviser upon the question. As regards the other matter—whether registrable qualifications which had not been registered in the Medical Register should go into the Dentists' Register, that was simply a matter of registration. He saw no objection to the resolution.

SIR WILLIAM GULL: My amendment, which is seconded by Dr. Scott Orr, is "that all qualifications in Schedule A of the Medical Act may be registered on the Dentists' Register."

DR. QUAIN objected to Sir William Gull's amendment on the ground that the question had been definitely discussed and settled by the Council. A resolution of a similar nature had been proposed and withdrawn, and if the Council were to allow that question to be re-opened, it seemed to him it would be acting contrary to all precedent.

SIR WILLIAM GULL: I said it was a motion that I should press later on.

MR. TURNER confirmed Sir William Gull in this statement, and said that Sir William Gull undoubtedly had said, "that if the motion were carried in the limited form in which it was proposed, viz., for the registration of surgical qualifications he would reserve to himself the right to raise the general question afterwards."

DR. FERGUS said that in adopting Dr. Pitman's motion, the Council would not be asking Mr. Ouvry to review or change the decision which the Council had come to. Dr. Pitman's motion was moved simply for the purpose of carrying into effect the previous resolution.

DR. PITMAN suggested that Sir William Gull should propose his amendment at some future meeting of the Council.

MR. SIMON suggested that the question, what was a surgical qualification, could be raised by the representative of the College of Physicians, moving that for the purpose of this resolution the Membership of the College of Physicians should be registered as a surgical qualification; but failing that, if action were to be taken on the resolution permitting additional qualifications on the Dentists'

Register, it could only be done in the way proposed by Dr. Pitman, viz: by the President in consultation with the Solicitor. Sir Wm. Gull was not in order in bringing forward his amendment because he had not given notice of it.

Sir WILLIAM GULL repeated that he had stated on Thursday that he should bring forward the subject for consideration. The Council had voted a blank cheque as it were. It had agreed to something it could not define. Was it reasonable for it to persist in standing in that attitude? He would suggest whether it was not right that the Council should refrain from taking action in pursuance of the resolution passed on Dr. Storrar's motion with regard to putting additional qualifications on the Register, pending the further advice of Counsel. The Council could not decide what surgical qualifications were except under legal advice.

Mr. TURNER: You mean that we should rescind the resolution.

Sir WILLIAM GULL said he did not propose that, but he thought it was an illegal vote, and he suggested the postponement of the question because the Council could not do justice to the intricacies of it unless everything was thrown over for the sake of teeth.

Mr. MACNAMARA: The question is in what terms the Registrar is to enter a qualification appearing in the Medical Register in the Dental Register, and was proceeding to address the Council, when

The PRESIDENT said that was not quite the question before the Council. The Registrar that morning in consulting with Members of the Executive Committee as to how the decision of the Council was to be carried out, foresaw that there might be certain practical difficulties, and as an illustration of the difficulties he put certain questions to the President; the President exercising such judgment as he could in the matter, thought that there being a great difference of opinion in the Council on the matter, it was not desirable that he should answer a purely technical administrative question, but that the opinion of the Council should be taken on the subject. If he were called upon to rule as to the nature of the amendment, he could not receive as an amendment any motion which re-opened the whole question. On account of the division of opinion in the Council, he thought it better to take its opinion as to what was to be done in carrying out the resolution carried on Thursday. The question was first whether diplomas not registered in the Medical Register were registerable in the Dentists' Register. There were a certain number of persons in the country in practice who held diplomas, which for various reasons they had not registered. Were those per-

sons to be refused admission to enter their qualifications in the Dentists' Register? Then there was the other question as to what qualifications were registrable as surgical qualifications. The President and the Registrar if nothing was done, would exercise their judgment and say yes or no to those questions, and take the blame or approbation of the Council accordingly. As there was a good deal of business to be done, it would be perhaps better to leave it to the Registrar to decide.

Mr. MACNAMARA said he was sorry he had to go away before this question was decided the other day. Under clauses 26 and 27 of the Medical Act, the evidence of a man's possessing qualifications was the fact of his name appearing in the Medical Register. If a man came up with a surgical qualification requiring the Registrar to enter it in the Dentists' Register, it was perfectly clear by the Act of Parliament that the only evidence as to the possession of that qualification the Registrar could take was the Medical Register, and therefore any person who required to have additional qualifications put on the Dentists' Register, was obliged to bring up the Medical Register to prove that he had those qualifications. If he had any grievance about those qualifications not being entered on the Medical Register, he could appeal to the branch Council.

Mr. TURNER called Mr. Macnamara's attention to clause 27 of the Act which said that "a copy of the Medical Register from time to time purporting to be printed and published as aforesaid, shall be evidence in all Courts and before all Justices of the Peace and others, that the persons therein specified are registered according to the Act." The clause made the Medical Register evidence of the qualifications therein registered of persons only who were to give evidence in Courts and before Justices of the Peace.

Mr. MACNAMARA: Then who are the "others?"

Mr. TURNER: It is certainly not the Registrar.

Sir JAMES PAGET said that the question was narrower than it seemed. If power was given to the Registrar to decide he would be at liberty to obtain the advice of the solicitor on the question before him. The legal opinion given at the meeting of the Council was on the question whether any qualifications whatever other than dental qualifications should be registered. The Council had decided that all surgical qualifications should be registered, and the only question remaining was not whether surgical qualifications should be registered, because the Council had decided that they should be, but what was a surgical qualification under the Act.



On that question the Council might decide by a vote that it would be certain things registered or not, or it might leave the matter to the President and Registrar for them to take a legal opinion as to what was a surgical qualification, the legal opinion being subject to the decision of the Council that surgical qualifications should be registered.

Dr. HUMPHRY was sorry to complicate the question further, but the Council had passed a resolution that the surgical qualifications recited in the schedule A were to be entered on the Dentists' Register. There were no such things as surgical qualifications in the Act. There were neither surgical, medical, nor obstetrical qualifications. They were qualifications of practitioners under the Act, and that was an additional reason for giving weight to what Mr. Simon had said.

Mr. MACNAMARA: There is the license of the Royal College of Surgeons of Edinburgh. What is that?

Dr. HUMPHRY: That is a qualification of a practitioner.

Dr. QUAIN: That is the only title to practise in this country [*Holding up the Medical Register*] and you propose to put titles not registered in it into the Dental register.

Sir WILLIAM GULL said that after what the President had stated he should give notice of motion that all qualifications admitted in schedule A of the Medical Act be registrable in the Dentists' Register at the option of the persons whose qualifications were so entered. He thought a man had no right to be put on the Dentists' Register unless he was on the Medical Register.

Dr. PITMAN's motion was then put and carried, there being 13 votes in favour of the motion.

The Council then proceeded to discuss the report of the Preliminary Scientific Examination Committee.

Dr. STORRAR then moved in pursuance of notice of motion:—"That the standing orders as regards the duties of the Executive Committee be re-considered by the Council," and proceeded to criticise the conduct of the Executive Committee in taking up subjects and dealing with them in such a way as to supersede the action of the Council, and to almost prescribe to the General Council the course which the Council should take as to the manner in which the Executive Committee had dealt with the Dentists' business. Dr. Storrar said:—There is a considerable sense of soreness outside this Council amongst the Dentists in regard to the manner in which the Dentists' business has been lately conducted. I speak of

the educated leaders of the Dentists. They have been sincerely desirous of improving their profession, and have had no personal view beyond that desire. We are trustees for the Dentists, and we should conduct the business of the Dentists in the most efficient way possible; also we should let the Dentists know what we are doing so as to give them the opportunity of communicating their opinions to this body in regard to matters on which they are competent to give us advice. Last year two opinions of Counsel were obtained by the Executive Committee, and I supported the motion that those opinions should be published and made known to the Dentists, but this was resisted because it was said there was a conflict of opinion. When the Executive Committee met after the Council had risen, they set to work to take their own course as to the manner in which the several applications for registration connected with the pharmacy should be registered. I looked in vain in the minutes of the Executive Committee to see in what way this question was laid before Sir Farrer Herschell and Mr. Muir Mackenzie. It may have been done under the general resolution that the solicitor should take steps to get information; but there is no record in the minutes of the Executive Committee showing how the case was drawn up. The minutes are as bald and blank as possible. Mr. Vaughan Hawkins, who has been for years consulted upon questions of law was not consulted on that occasion. There may have been good reasons for that, but the junior Counsel is the man who gets up the case for the senior Counsel, and it is singular that without explanation, Mr. Vaughan Hawkins was omitted, and an entirely new Counsel brought into the field. When in common with other members of Council, the legal opinion marked "strictly confidential" was received by me, I held it in my hand in a state of great agitation, burning to show it to Mr. Tomes and some other leading Dentists, but I was bound in honour not to do so; and yet, who was more entitled to know what the opinion of the Counsel was, than those Dentists. The Council was called upon mechanically, with a pistol at its head as it were, to follow the opinion which was laid before it, and we simply endorsed what was laid down to us as the law by the lawyers. Since then, however, the question has been discussed by Dentists, men of business, solicitors and barristers, and all I can say is that the leading Dentists are firmly of opinion that the opinions are unsound. It is a question at the present moment whether the Dentists will come forward and take a judicial decision of the courts upon the subject, or whether they will make

up their minds to put up with what has been done, trusting to time to clear the Register of people who have been, according to their views, most unwarrantably introduced into the Dentists' Register. If the object of the Council had been to get the judicial opinion of the Solicitor General, both sides of the question should have been laid before him; the proper course is to have the case on both sides fairly stated and argued. There is a rankling feeling on the part of some of the Dentists, that this Council instead of being the guardians of this new profession, has been hardly and unfairly dealing with it. At the last session of Council, when I rose and expressed my regret at the position of the Dentists, Dr. Quain said it was the result of "amateur legislation," and that if the Dentists' had adopted the Clauses of the Duke of Richmond's Medical Bill, relating to the Dentists, all this would not have happened. I do not know what amateur legislation is. Mr. Tomes was telegraphed to this morning to ask what alterations were made by the Dentists in the Bill. His answer is as follows:—"The Dentists' Act as it passed, differs in machinery greatly from the original Bill. The new Clauses were in the Duke of Richmond's Medical Bill, the alterations were made by the Government, not by the Dentists."\* I think it is not fair that the Dentists, who are the sufferers, should be made the scapegoats; if anybody was to blame it was the Government. Dr. STORRAR then concluded by saying that he did not wish to do anything which would indicate animosity towards the Executive Committee, but wished to impress upon them that they should be more guarded as to the manner in which they dealt with such great public questions as those involved in the administration of the Dentists Act.

Dr. PYLE seconded the motion.

Dr. AQUILLA SMITH observed that Dr. Storrar said dissatisfaction existed in the minds of the Dentists' in consequence of the action of the Council, but Mr. Tomes seemed to say in his letter that the defects in the Act arose from the action of the Government, which acquitted the Dental Committee and the Executive Committee from many of the charges which Dr. Storrar had made. He thought it would be probably satisfactory if the Dentists took steps to test the legality of the action of the Council. Dr. Storrar's statement

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\* The whole of the machinery of the Act was re-drafted by the Government for the purpose of bringing the registration and other clauses into conformity with the corresponding clauses of the Lord President's Medical Bill, as approved by the Council. For proof of this see the Letter of the Government Draughtsman, *Minutes of the Medical Council*, July 1st, 1878.

that there were great differences outside the Council amongst the Dentists was further negatived by the fact that the British Dental Association had written thanking the Council for its prompt consideration of the questions arising on the Dental Act.

Dr. STORRAR's motion was then, by permission of the Council, withdrawn and the Council proceeded with other business.

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### National Dental Hospital and College.

THE Annual Distribution of Prizes to the successful students of this Institution took place at the Beethoven Rooms, Harley Street, on the evening of the 3rd inst., Mr. Erasmus Wilson, F.R.S., in the chair.

The DEAN (Mr. Thomas Gaddes) opened the proceedings by reading his report for the past year.

Mr. Gaddes alluded to the action of the Medical Council with reference to the Register, and the advantages extended to registered practitioners at the National Dental Hospital.

In the year 1879, fourteen new students entered the school, but during last year twenty-one new students joined the college.

He congratulated the students upon their achievements during the past year, and in conclusion expressed the deep sense of appreciation felt by the staff of the Hospital and College of the dignity given to the proceedings of this evening by the presidency being occupied by a veteran specialist, a lifelong teacher revered in his profession, and one whose name has for some years been associated with the National Dental College.

The following gentlemen then received prizes and certificates :— Mr. Rose, the Rymer gold medal for general proficiency and the prize medal for Dental mechanics ; Mr. Mountford, the medal for Metallurgy ; Mr. Rose, the medal for Dental Anatomy and that for Dental Surgery and Physiology ; Messrs. Bailey, Hughes, Pidgeon, and Spain receiving certificates ; Mr. Mansell, the medal for Operative Dental Surgery ; Mr. Bailey, the prize for the best piece of Mechanical work ; Mr. Pidgeon, the prize for the best notes of the lectures on Dental Surgery and Pathology.

The distribution of prizes being concluded, the Chairman delivered his address, which will be repeated in full in our next issue.

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## Review.

*Deformities of the Mouth.* By OAKLEY COLES. Third edition.  
J. & A. Churchill, London, 1881.

Mr. Coles has produced a very readable and instructive work. Throughout the volume there is abundant evidence that the author has spared neither time nor pains in his researches into the already extensive literature of the subject, while his own additions to that literature form by no means an inconsiderable item.

The opening chapters are devoted to a slight sketch of the anatomy and development of the palate and its adjacent parts—subjects with which the majority of Mr. Coles' readers are most likely tolerably familiar. In the third chapter the etiology of the cleft palate is considered, and the author expresses his belief that the influence of heredity is rather indirect than direct, in other words, that though the deformity may be referred to parental influence, it is very doubtful whether it is itself transmissible. We are inclined to think Mr. Coles might have enlarged rather more upon his reasons for this opinion, especially considering the weight of authority arrayed against him. In this very interesting chapter Mr. Coles quotes the observations of Messrs. Cartwright, Coleman, and Mummery upon a large number of skulls of uncivilized races, both ancient and modern, with the uniform result that they were found to be excessively perfectly developed. Dr. Nicholls of New York reports a similar state of typical development in some thousands of mouths of Indians and Chinese examined by himself. This observation does not seem altogether consistent with the author's opinion that the deformity is more or less due to the influence of civilization, transmitted from generation to generation, for Dr. Nicholls appears to have found a perfect development frequent in the case of the Chinese, who have probably enjoyed a civilized state longer than any other existing race, and the Indians, who can scarcely be said to have ever enjoyed it at all. Furthermore, Dr. Ogle's statement that 99 per cent. of the lion cubs born in the Zoological Gardens had cleft palates, seems to suggest that some more rapidly operating cause than ages of civilization must be sought for. Finally, the percentage of deformed cubs at the Dublin Gardens fell to an insignificant item immediately the parent animals were fed with a goat twice a week; this fact has, we think, a greater significance than Mr. Coles seems inclined to allow it. If we regard side by side these several facts (1) that 3,000 ancient and modern civilized skulls examined by Mr. Mummery were typical; (2) That Dr. Nicholls found an uniformity of perfection in thousands of Indians and Chinese, both probably living in America under tolerably similar conditions as regards diet; (3) The speedy appearance of the deformity in the lion cubs when their parents were deprived of their natural diet; (4) Its speedy disappearance when the natural diet was in a measure restored—we are inclined to deduct the conclusion that the main factor in the production of the de-

formity is the diet of the parent animals. This conclusion seems further borne out by analogy, for if any portion of the economy of an animal be excessively used, and consequently developed to meet the demand upon its powers, in the animal's offspring the organ will probably be more perfect; and if, on the contrary, an organ be habitually disused, its development in succeeding generations will be less perfect.

Chapter V. is, in the main, a reproduction of the author's paper read last year at the Odontological Society, suggesting a classification of deformities of the upper jaw; he complains, with justice, of the vague and unsatisfactory nomenclature at present in use to describe the varieties of form which the upper jaw may present, and quotes such ridiculous expressions as these; "keel shaped," "Gothic," "upsilon," &c. To remedy this confusion, Mr. Coles suggests the following plan of measurement: he forms a triangle, the base of which is a line uniting the centres of the distal surfaces of the second molars, the sides are lines uniting the above points with the meeting point of the mesial surfaces of the centre.

The base of this triangle gives the breadth of the jaw; a line from the apex to the middle of the base gives its length, exclusive of the wisdoms; lastly he takes the interbicuspid measurement between the second bicuspids from the edge of the alveolus, to avoid the falsification of results that might arise from inversion and eversion of the tooth, if the measurements were taken from the crown. Finally, the author professes to designate aberrations from the normal measurements by the terms dolichoid, brachoid, macroid, microid, premaxillary, prognathous, premaxillary, hypognathous, and lambdoid. Whether these terms are likely to render the study of these deformities more systematic and easier than "long," "short," "large," and "small," &c., will be tested in the future by their adoption or rejection by the profession at large.

Chapter VIII. contains a good account of the principal appliances that have been employed from time to time to remedy the defect of cleft palates and restore the voice,\* and after an elaborate and detailed account of every step in the proceeding of taking models and adjusting the apparatus, the author confidently asserts that he regards the attainment of fairly good speech as possible, in the majority of cases.

The illustrations at the end of the book are well done, with the exception of plate 1, which is rather confused and difficult to make out. Plates 9-16 especially demand our commendation, being really beautifully drawn and executed, a point which we would insist upon as very conducive to the success and usefulness of a work like the present.

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\* We confess to some curiosity whether (apropos of the effect of this deformity upon the voice) Dr. Ogle has noticed any nasal twang about the roar of a lion suffering from cleft palate.

### The International Medical Congress and the Dental Section.

WE are requested to draw the attention of those who are desirous of becoming members of the forthcoming International Medical Congress, that it is desirable that they should personally apply at the Secretary-General's, 14, Harley Street, Cavendish Square, and register their names, and pay the subscription of one guinea, entitling them to all the privileges of membership and a copy of the Transactions.

On Saturday, April the 30th, Mr. Saunders entertained at dinner the Council of the Dental Department of the International Medical Congress, to discuss the future arrangements in a conversational manner, prior to the business council of the section.

### Royal College of Surgeons, Edinburgh.

THE following gentlemen passed their first professional examination for the Licence in Dental Surgery during the recent sittings of the examiners:—Henry Wyles, Leeds; James Lindsay, Edinburgh; Edward Innes Ayton, Edinburgh; Thomas Gaddes, Carlisle; Joseph Smithson Thomson, Dublin; Hume Purdie, Alford; Robert Peel Thomson, Dublin; and the following gentlemen passed their final examination and were admitted Licentiates in Dental Surgery:—Frank Harrison, Sheffield; James Stewart, Perth; Thomas Gaddes, Carlisle; Edward Innes Ayton, Edinburgh; Maximilian Frank Simson, Lee, Kent; Hugh Fraser, Largs, Ayrshire; Henry Wyles, Leeds; Ernest Burt, Weymouth.

### Appointments.

Arthur S. Underwood, Esq., M.R.C.S., L.D.S., has been appointed Assistant Dental Surgeon to the Dental Hospital of London.

JOHN AUSTIN BIGGS, Esq., has been appointed Dental Officer to Anderson's College, Glasgow, in room of the late Mr. J. C. Morison, L.D.S.

T. S. Carter, Esq., as Dental Surgeon to the Leeds Infirmary.

OBITUARY.—Mr. Isaac Sheffield, of 2, Stratford Place, was taken from us by death on Monday the 9th, most suddenly, and at the age of 66. He was most beloved by his natural surroundings, and esteemed highly by a large and influential connection. He was a man ardently fond of his profession, a bright example of a generation of Dental Surgeons now passing from our ranks.

### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.P.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A  
MONTHLY REVIEW OF DENTAL SURGERY.

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#### ASSOCIATION NOTICES.

The Representative Board will meet on Saturday, July the 30th, at Three o'clock.

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THE ANNUAL GENERAL MEETING of the Association for business purposes will be held on Monday, the 1st of August, at Eleven o'clock.

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The Meeting for the Reading and Discussion of Papers will open at Two o'clock.

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Members wishing to read Papers or make Casual Communications, are requested to communicate with the Honorary Secretary, at 12, George Street, Hanover Square, London, W.

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All the above Meetings will be held at 40, Leicester Square.

J. S. TURNER,

Hon. Sec.

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VOL. II.

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THE attention of our readers has already been called to a movement now going on which has for its object a more complete teaching at our general hospitals of the aims and methods of Dental Surgery, since hitherto the extraction of teeth has alone been taught to any considerable extent. Few who are capable of forming any sound opinion upon the subject, will contend that a general hospital can compete with a special institution in giving the instruction needed by the student who purposes to devote himself to the practice of dentistry, but at the same time it is very desirable that the general practitioner should, during his hospital curriculum, gain some slight acquaintance with the daily work of the dentist. To the latter the gain would be very great, for at present the complete ignorance on the part of the trusted medical attendant of what the dentist can and ought to do, too often results in a conflict of advice which results in the bewilderment of the patient and the annoyance of both practitioners.

Amongst some influential medical circles another aspect has, however, been put upon the question, arising to some extent out of this same ignorance of the intimate nature

of dental practice. It is urged that in dentistry, as in surgery, the poor hospital patient should be able to secure all that the rich can, that they should be able to have teeth filled gratuitously, and even artificial teeth supplied at the hospitals; that it is their right, and our duty to provide that they shall enjoy that right. How far the average hospital out-patient does secure precisely the same services as the rich private patient, is not a question for these pages, nor perhaps, is it worth while to enquire too curiously into the communistic idea which seems to underlie the plea as set forth—nor again to speculate on the probable date at which the millenium will arrive, when rich and poor shall have equal privileges. Setting all this on one side, the proposition really does show, in the most emphatic way, the little idea of a dentist's work possessed by the average medical man, and the desirability in the interests of his patients, and in his own, of his knowing more. No moderately humane person would deny to the poor anything that could alleviate in the slightest degree the bitter cheerless drudgery of a life all spent in the struggle for a bare subsistence; no one would grudge them even such luxuries as would brighten and widen their interests, but when has it ever been found practicable to alleviate, on any considerable scale, even the greater evils of poverty? The one thing that is forgotten, or rather that has never been known either by the dentist's patients, or by the medical profession, is the degree of care, and, above all, the expenditure of time essential to the performance of dental operations. It is hardly ever realised, and least of all by those who boldly propose this extension of hospital work, that the expenditure of time upon one patient, nay, upon one filling, is so great, that, to a busy practitioner, the seeing of one

patient means the absolute exclusion of another. Not only would the according of such privileges to hospital patients occupy the whole day of our present hospital dental surgeons, but it would take up the entire time of twenty or thirty times as many. For we must not estimate the time required to fill the teeth of those few patients now driven to the hospital by pain to have their teeth extracted, though to any one at all cognisant with the condition of the mouths of the poor, the task of setting these few in order would seem herculean; we must take into account the enormously greater influx of patients which would take place when more could be done, and think how that is to be grappled with. It is an ungracious task to throw cold water upon a charitable suggestion; but when that suggestion is wildly impracticable, it is far better that it be openly declared so, than that heart burnings should arise in the attempt to roll the stone of Sisyphus up a hill. By all means, then, let such clinical teaching as is practicable be conducted at our general hospitals, and the Dental profession will be amply repaid by the education accorded to the general practitioner, and through him to the public. To such extent as is practicable too, the poor patients will be benefitted, but after all, the amount which can be done will never touch the mass of disease, and the teaching, not the charity, will be all that can be really accomplished. It is, and ever must be, to our sorrow be it said, as impossible to provide the mass of the poor with good dentistry, as it is to provide them with good clothes, good houses, and good living.

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## Midland Branch.—Annual General Meeting.

*Held at Liverpool, May 4th, 1881.*

THE general business meeting of members took place at 12 o'clock, Mr. H. Campion, President, in the chair. Amongst those present were Mr. R. E. Stewart (Liverpool), the Vice-President; Mr. S. Wormald (Stockport), Treasurer; Mr. W. H. Waite (Liverpool), Secretary; Mr. J. Smith Turner (London), Secretary of the British Dental Association; and Messrs. W. J. Bryan, E. Council, T. Dilcock, D. Dopson, C. B. Dopson, W. J. Newman, J. P. N. Newton, E. Osborne, J. G. Roberts, C. T. Stewart, W. Stewart (Liverpool), W. H. Nicol (Leeds), T. Mahonie (Sheffield), T. Murphy (Bolton), J. Renshaw, (Rochdale), L. Matheson (Manchester), D. A. Wormald (Bury), W. Shillinglaw (Birkenhead), R. King (Shrewsbury), J. R. Goepel (Liverpool), E. H. Williams, George Frost, W. Kelly (Manchester), Keating (Rhyl), W. Headridge (Manchester) J. S. Crapper (Hanley), G. E. Brunton (Leeds), T. Buckley (Hollinwood), T. S. Carter, &c.

The minutes of the last meeting having been read and signed, the President said the next business was the election of officers for the ensuing year.

The SECRETARY said, if they were to proceed strictly in order their next duty would be to pass a vote of thanks to their retiring President, for his able conduct during the first year of the existence of the branch; but at their last meeting, held in Manchester, the Council devised another method of testifying their appreciation of his services. They unanimously requested him to undertake the duties for another year. There was no doubt as to the earnest wish of everybody present at the meeting that he should do so, but, under the pressure of a variety of duties and responsibilities, Mr. Campion did not then feel quite at liberty to give a definite answer. Some little time after, a very urgent written requisition was drawn up, and signed by every individual member of the Council, praying Mr. Campion to consider the matter favourably, and, in response to that very pressing request, Mr. Campion had kindly consented to allow them to nominate him again, so that they were now in the happy position of being able to propose his re-election. There was no one present, except himself, who knew the extent to which they were indebted to Mr. Campion for the success which had so far attended their branch, but he was quite sure that every one of them would agree with

him that it was impossible for them to have a better President. There was another point which he should like to mention. They all knew that Mr. Campion held the full membership of the Royal College of Surgeons of England, although he practised solely as a Dental Surgeon, and they knew, moreover, that he was one of the most fully occupied practitioners. The fact, therefore, that Mr. Campion was willing to devote his time, energy, thought, and labour to the development of their Association was in itself a splendid rebuke to the pharisaical spirit that was constantly manifested in certain quarters, and for this reason he rejoiced exceedingly that they were in a position to nominate him a second time. He could bear testimony to the fact that the interest Mr. Campion felt in the Association was not merely an official interest, but that he had a very deep and true concern for the welfare of the Dental Profession; and he was proud to have the honour, on behalf of the Council, of proposing that he be elected a second time the President of the Midland Branch of the British Dental Association.

Mr. DILCOCK seconded the motion.

The SECRETARY: We will have the other officers nominated first and then ballot for them altogether.

Dr. D. A. WORMALD begged to propose that Major Stewart be re-elected Vice-President for the ensuing twelve months. He agreed with Dr. Waite that the honour which had been given to Mr. Campion was simply his due, seeing that he was present at the birth of the Association, and considering the way in which he had worked for it; and when his second year of office expired, he was sure they could not have a better successor than their friend Major Stewart, as representing the great city of Liverpool. Coming, as Major Stewart did, from north of the Tweed, although, perhaps, he might not be a very eloquent spokesman, he possessed the canny feeling which was characteristic of those who came from that quarter, and, he was sure, would keep them in order, and from the energy and force of his character, coupled with the support which he would receive in Liverpool and the neighbourhood, and the kind feeling which would be exhibited towards him by the various members of the Association, he thought they might hope and trust that, under his guidance, success would attend their efforts, and the Association would go on increasing in power and usefulness from year to year.

Mr. W. HEADBRIDGE had extreme pleasure in seconding the pro-

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position. He felt thoroughly satisfied, from his knowledge of and acquaintance with Major Stewart, that he was the right man in the right place, and that he would do everything to help on the success of the Association.

Mr. W. H. NICOL said he was sure that when they heard Mr. Wormald's report of the financial condition of the Association, which showed a balance in hand, they would agree with him that they could not do better than re-elect him treasurer. He had great pleasure in proposing that they retain Mr. Wormald's services as treasurer for another year.

Mr. J. S. CRAPPER seconded the proposition.

The PRESIDENT said the next business was to appoint a secretary, and he did not think they would have to go any great distance to find a good one.

Captain W. J. NEWMAN had great pleasure in moving that Dr. Waite be requested to continue his services as honorary secretary to the Branch.

Mr. E. H. WILLIAMS seconded the motion.

The ballot was then taken, and the declaration that each of the gentlemen nominated was duly elected was received with applause.

The SECRETARY then read the following

### REPORT.

IN submitting their first annual Report to the members and associates of the Midland Branch, your Council are able to announce that fifty members and six associates have been elected during the year. With deep regret we have to record the decease of one of our members since the last meeting, Mr. H. Marsh of Manchester. The special general meeting held in October was both successful and agreeable; and, although the branch has been so recently organised, its influence has already been felt in several of the towns by a marked increase in the number of those who have joined the British Dental Association, and begun to take an active interest in dental matters.

The event of the greatest import, which has taken us all by surprise, is the decision arrived at by the General Medical Council in reference to the purgation of the Dentists' Register. This action of the Council perpetuates what we had hoped was only a temporary injustice, and deprives the Dentists' Act of much of its acceptance, but in so far only as the present generation is concerned. Some hundreds of utterly uneducated and inexperienced individuals have obtained a *legal* position, equal to that of the most thoroughly competent practitioner, and the General Medical Council has confessed itself entirely unable to remedy the mischief. This is not a satisfactory result, and we shall gain

nothing by any attempt to gloss it over, or conceal the real truth from our minds. Let us, therefore, look the fact in the face. Suppose there may be 1,500 men who have in some way or other got registered as dentists who had no just claims to be admitted. It may be safely predicted that one-half of these will never attempt to practice, and with regard to the remainder it must be remembered that being on the register cannot make a man a dentist, though it confers upon him the right to call himself one. The title may enable him to experiment for a while on a too credulous public; but knowledge and skill, and professional behaviour alone can secure for any one a permanent position in our ranks.

No doubt we had a right to expect that something would have been done to mitigate the evil, partially at any rate; but the consideration more to our purpose is, whether, after all, we are not in a better position than we could have reached by any other process. The clause under which these improper registrations have occurred (sec. vi. clause c.), or rather the portion of the clause, consists of the words "or in conjunction with the practice of medicine, surgery, or pharmacy." Now as a matter of fact, these words were added to the original clause. Why? To disarm the opposition which our Act had to encounter, and the reflection under shelter of which we shall find most consolation is this, that without such a concession certainly the Act would not have passed at all. We might in that case have been to-day bemoaning the unwisdom of withholding those words and drifting about without any rudder to guide, or anchor to hold by. No sentiment could more befit the occasion than that uttered by our honoured and worthy leader, Mr. Tomes, to the members of the Board, at its meeting on Feb. 7:—"Is there one with so small a spark of liberality and kindness that he would have declined a bill which insured to all who henceforward adopt the profession of dental surgery a liberal education, a competent knowledge of his profession, and a good professional position, because, with a due regard to the interests of existing practitioners, we could not ensure the initial registration against abuse—because the name of a person he regards as his inferior professionally and socially—indeed, as no dentist at all—may occur on the same page as his own, coupled with a statement which guarantees neither education nor professional knowledge, viz., that the person named was 'in practice before July 22nd, 1879.' If there be such a person, surely in the presence of more generous natures, he will wear the mantle of shame."

But now this repulse, if we may call it by that name, may be turned to good account, if it makes us more active and earnest in building up our Association. There is wonderful truth in the proverb, "Heaven helps those who help themselves." We may have been indifferent, inactive, querulous in the past, and our lack of enthusiasm has furnished its quota towards producing the results we deplore. True, we had no Association through the medium of which we might bring whatever



power or influence we possessed to bear. For the future, if we are wise, we shall be alert, each doing his best, be it little or much, to make the Association, first of all *numerically strong*. We want the British Dental Association to include every reputable and competent practitioner in Great Britain; and we ought not to rest till this is accomplished. In proportion as we become comprehensive of all that is worthy and skilful, we shall command the confidence and esteem of the general public. Then we want the Association not only to embrace, but to elevate and cultivate, and stimulate all who come within its borders; and in order to do this, each member will need not only to bring that which may be easy and commonplace, but to exert himself to some sacrifice, so that he may produce the highest influence of which he may be capable.

The hope for the future of dental surgery in this country is centred, not in the Act of Parliament, but in the successful working of our Association. It has to become a moral force to purify and restrain, and encourage those that are out of the way, and to call forth the generosity and the energy, and all the resources of those who, by early advantage and natural capacity, have already risen to the higher levels of professional life.

It is to this ambition that we invite you, now that our branch has become fairly established. If each member and associate will respond to the measure of his ability during this year, it is easy to predicate that much will have been achieved in our respective localities towards the accomplishment of those objects we all have near to our hearts.

Your Council has decided to recommend that the next annual Meeting be held in *Leeds*.

Some alterations of the bye-laws will be submitted for your approval; you will also be asked to nominate three gentlemen to fill up vacancies that have occurred upon the Representative Board of the British Dental Association.

It is with unfeigned satisfaction and pleasure that we have already intimated the success of a very urgent appeal, made by the Council unanimously, to Mr. Campion, praying him to retain the presidential chair for another year. The welfare of our branch, and no less the interests of the British Dental Association we know occupy a very prominent position in Mr. Campion's consideration; and we are convinced that the public spirit, ability, and urbanity with which he discharges the functions of his office will command the entire confidence and esteem of all connected with us. The Council have also the pleasure of nominating Major Stewart as Vice-President for the ensuing year.

Mr. WORMALD, the treasurer, next made his financial statement. The first meeting of the Branch, he said, was held at the Trevelyan Hotel, and cost 5s. The second was also held there, and cost the same amount. Then there were two items—one o

£2 15s., and another of £6 3s. 6d.—for printing and issuing circulars. For the Memorial Hall, in which they held their meeting in Manchester, they paid £2 2s.; for reporting that meeting, £4; for printing, &c., £4 18s. 3d.; cheque-book, 10s.; postage, 12s. 6d. Their next meeting at the Trevelyan Hotel cost them 10s.; printing, &c., 7s. 6d.; account-book, 2s.; stamps and stationery, £1 5s. These items amounted to £23 15s. 9d. The subscriptions received amounted to £22 5s.; but there were a few more to come in, and the balance in hand would be about £2. Many of the items of expenditure were such as they would not have to repeat. The institution of the Association had been expensive, but he thought they might count on having a better surplus next year.

Mr. J. R. GOEPEL said that, after hearing the report, he was sure they were all thoroughly convinced that their faith in the Council of the Society had been very well placed, for a more satisfactory report it would be impossible to expect, and the treasurer's statement of accounts showed that everything had been conducted in as economical a manner as possible. As the treasurer truly said, the expenses had been large, but they did not expect them to be so large in future. At the same time he hoped that the Society would not in future be limited to quite such economical means, but that if the Council found that they required any information or advice, the funds would be ample to enable them to secure it. For his own part he was exceedingly pleased with the report. He hoped that the business of the Society would be prosecuted in future with the same courage and ability as in the past, and that twelve months hence they would have an equally satisfactory report. It was with very great pleasure that he proposed that the report and statement of accounts be received and passed.

Mr. W. H. NICOL seconded the motion.

The PRESIDENT reminded members that the report contained a recommendation that the next meeting be held at Leeds, and that the adoption of the report would include the adoption of the recommendation.

Mr. J. SMITH TURNER said that, apart from the pleasure with which he had listened to the report, he should like to say a few words about the position in which they stood relative to the main object of the Association, namely, the protection of the Dentists Act. The proceedings of the General Medical Council had been alluded to in the very excellent report read by the Secretary, and

he confessed that the action of the Medical Council was to him not altogether an unexpected disappointment. It was a disappointment which he was afraid they would have to encounter. There was a species of opposition which it was very difficult to meet—not the opposition of fair and honest discussion, but an opposition which was as unscrupulous as it was determined in its action, and that was the kind of opposition that the views of the British Dental Association, in reference to the administration of the Dentists Act, had had to encounter. It was a matter of extreme regret to them all when they read of the opposition of the Medical Council; but, on being looked at closely, like a great many other calamities, it lost a great deal of its apparent disagreeable character. The decision of the Medical Council was that a large number of persons whose names had been sent in to them as having been irregularly registered were to remain on the list, and that another large number of persons who had withdrawn their names from the register were to be invited to replace their names on the list. This decision was arrived at, apparently, very quickly and very suddenly by the Executive Committee of the Medical Council, and, to guide them in this decision, they had taken legal opinion. He thought that that legal opinion was procured in a very irregular way. The opinion of the Solicitor-General had been paraded as one of the opinions, perhaps the strongest, upon which they acted, and the action they had taken on that opinion was to sweep away a section of an Act of Parliament. He need only say that, in the opinion of men of some repute as lawyers, such a thing had never been done before. It was virtually, not interpreting an Act of Parliament, but sweeping away a whole section of it, and saying, "These words are useless; they should never have been there; and they cannot be acted upon." That was the position of affairs at present. This decision had allowed some 400 or 500 names to remain on the register. Well, out of so many thousands that was but a small matter, but, as a straw would show how the wind blew, the fact that these names were allowed to remain on the register showed how necessary it was for the dentists, as a body of legitimate practitioners, to be up and doing, and to resolve that these questions should not be decided for them by any council, but that they should be decided in a court of law. This question of registration in conjunction with pharmacy, or with surgery, or medicine, although it had been acted upon in a certain way by the Medical Council, was not decided. The Medical Council might be

a jury if it liked, but it could not be a court of law, and until the question was decided by a court of law, the opinion of the Medical Council would stand where it did. It did not become law, not even a precedent on which they could act. Then, there were other points in the Act which required to be decided by law. There was the question of *bona fides*. That had never been tried. He had no doubt in his own mind as to the decision which would be given, but this certainty in his own mind did not make the decision. It must be argued in a law court. Then, behind this question came the question of the age at which a person might be registered. If they would look at the matter for one moment, they would see that the question of *bona fides* would, amongst other things, decide that question also, because all licensing bodies who issued diplomas allowing persons to practise under proper circumstances, required the person to be of a certain age before the diploma was issued. That would point to the age of twenty-one. Then the question would arise: "This person was aged fourteen when he was put on the register. Can he possibly fulfil the functions of a *bona fide* practitioner?" And the question answered itself. So that if the question of *bona fides* were decided in a law court, it would let them know at all events their true position, whether it was decided in their favour or not. He did not think he need trouble the meeting with any further remarks. The necessity for what he had said arose in his mind when he heard the report read, and that was his apology for troubling them. He thought they had all reason to congratulate themselves on the progress which the profession was making, particularly in this part of the country. He for one was exceedingly pleased to come down and see the same men sticking to the work so assiduously as they did. He hoped they would meet with the reward which they deserved.

The motion for the adoption of the report was then put and carried unanimously.

### THE BYE-LAWS.

The PRESIDENT said a question was raised some little time ago with regard to one of the bye-laws, which certainly did not appear to read as clearly as it might have done. That indistinctness arose in this way. The bye-law was originally framed to have reference only to the election of members. Then a proposal for the admission of associates was adopted, and by some oversight the mode in which members should be elected was overlooked. Then someone raised



a question with regard to their power of electing or rejecting members, and it was thought desirable, in order to prevent any mistakes in future, to make a slight alteration in the bye-laws. It was proposed to strike out bye-law No. 3, and substitute the following :

3. Any member of the British Dental Association may be elected a member of the Branch by the Council of the Branch, at any of their ordinary meetings, on his sending a written application for election to the Secretary of the Branch.

Mr. W. H. NICOL moved the adoption of the new bye-law, as read ; and the motion, having been seconded by Major STEWART, was agreed to.

The PRESIDENT said the next proposition was to adopt a new bye-law (to be numbered 4) as follows :

4. Any registered practitioner who can subscribe to the conditions laid down in Bye-law 2, and who shall be recommended as eligible by any three members or associates, may be elected an associate by the Council, on his forwarding the recommendation to the Honorary Secretary of the Branch.

On the motion of Mr. ROBERTS, seconded by Mr. GOEPEL, the proposed new bye-law was adopted.

The PRESIDENT said some objection had also been taken to the mode of election, and, therefore, it had been thought desirable that it should be made perfectly clear and absolute, and the Council proposed the following bye-law to be No. 15 :

15. The ballot-box shall be used at all elections, whether by the Council, or at the General Meetings of the Branch, and a majority of four-fifths shall be needful to carry an election.

Major STEWART said he should have great pleasure in moving this.

Mr. GOEPEL seconded the motion, and the bye-law was adopted.

### THE REPRESENTATIVE BOARD.

On the motion of Mr. DAVID WORMALD, seconded by Mr. RENSHAW, Major Stewart (Liverpool), Mr. Mahonie (Sheffield), and Mr. Nicol (Leeds), were unanimously nominated to fill the three vacancies in the Representative Board of the British Dental Association.

### THE PRESIDENT'S ADDRESS.

The PRESIDENT: That, Gentlemen, brings us to the end of our business ; but although it had been arranged that there should not be an address from the President at this meeting, I feel that, even at the risk of trespassing on your patience, I must detain

you for a few moments, were it only to thank you for the honour you have done me in again electing me to the important position of President of our Branch. Great was my surprise when, at our last Council meeting, our worthy Vice-President (whom I fully expected would have been nominated for the office) kindly proposed that I should be re-elected; and still greater was my astonishment on receiving, as I did shortly after, a most kind and flattering memorial, signed by all the members of the Council, strongly urging me to allow myself to be nominated for re-election. Although I had been looking forward with great pleasure to the prospect of being able to attend this meeting freed from the anxieties of office, I could not but feel that personal wishes ought, at however great a sacrifice, to give way to so urgent and unanimous a request, and I cannot but thank the members of the Council for the very kind expressions contained in their memorial, which will long be valued by me, as a remembrance of the kindness and consideration which I have ever received from all the members with whom I have been associated. As at present the Society is limited to one meeting in the year, there are no proceedings for me to summarise. All who were present at our last meeting must, I think, admit that it was eminently successful, and it is much to be regretted that through the loss of the manuscript in the post the Council were unable to present the members with a verbatim report of the proceedings. You have heard from the report of the Council of the increase in the number of our members; and satisfactory as the statement is, I hope that at our next meeting the number of our new members will be doubled, for nothing conduces so much to the success of a scheme as a successful progress. Young as our Society is, I regret to say the hand of death has already deprived us of one who promised to be a most valuable member, for such I am sure must be the feeling of all who heard the interesting and instructive paper which Mr. Marsh read at our last meeting. His great wish (as he told me) was to be permitted to assist in raising the profession to a better position than it was in when he entered it; and the success of our branch was one of his great desires. May we be permitted to hope that many others will be induced to follow his example, and sinking all minor and personal matters, strive for the general good of the profession, that when the time shall come for them to cease from participating in its active duties, they may feel that the profession has not, through the apathy of its members, been

allowed to stagnate, when all around has been keeping pace with the great discoveries of the age. The event of most interest to us all since our last meeting has been, as you doubtless are well aware, the decision of the Medical Council on the proposed removal of certain names from the Dental Register. As the worthy secretary of our society is present with us to-day, I feel that I cannot do better than leave that subject in his hands, for he will be able to enter into it more fully than I can do. It gives me, however, great pleasure to be able to say that the Medical Council have at last recognised the claims of those who possess additional qualifications to their entry in the register, as I received a notice a few days ago that all such qualifications will be entered by the registrar on receipt of satisfactory evidence, and the registration fee of five shillings for each qualification. Apologising for having thus detained you, and with all good wishes for a pleasant and instructive meeting, I thank you for the honour you have done me in electing me to the office of President for another year.

At the close of the President's address, an adjournment for luncheon took place.

### THE GENERAL MEETING.

The General Meeting for the reception of casual communications and the reading and discussion of papers was held at half-past two o'clock.

### CASUAL COMMUNICATIONS.

#### FIXING BONWILL CROWNS.

Mr. G. E. BRUNTON (Leeds) read a communication on—  
*An improved method of fixing Bonwill Crowns.*

Before describing to you my improvement on Dr. Bonwill's plan, let me give you a brief sketch, condensed from the *Cósmos*, for August, 1880. In Dr. Bonwill's paper he says, he has been experimenting since 1871, with the view of perfecting a plan whereby any moderately intelligent practitioner may be able to add a porcelain crown to a root or roots of any tooth in the human denture, and this he does by two methods; first, by an all-porcelain crown or shell filled with amalgam and fixed to the root by a platina pin; second method, a half-tooth (porcelain) with metal-backing secured to the root by a bolt and nut, the bolt being bedded in the root with amalgam; by this latter method you will see that the tooth is removable, whereas, the other plan is a fixture. I hand round a few of the all-porcelain crowns, but you will better understand from the diagram, which shows the section of a root with a porcelain crown attached by the barbed platina pin. The crowns

seem weak, but I find in practice that they stand quite well. You have your choice, however, of the two methods, and if you do not care to keep a large stock of the all-porcelain crowns to select from, you may use a half-tooth, and affix it with a bolt and nut. This method is of course confined to the incisors and cuspids of both upper and lower jaws. The bolt and nut method has this advantage, you may put the crown as far forward of the root as may be required to bring the tooth in range, so that you can simulate a regular denture let the roots be ever so irregular; you can also put a central crown on a lateral root, or a lateral on a central. If required, two teeth may be joined together by a plate, but it is better to allow each crown to be fixed on its own root. The root or roots being in readiness to receive the crowns, the canals enlarged and dried and the foramina closed, the platina pin is cut off rather shorter than the length of the root, as it cannot be pressed up quite its full length through the amalgam; the pin is three-cornered, pointed at the end and well barbed with a knife. The crowns having been adjusted to the roots, place soft amalgam up to the end of the canals, and when full, take a pointed three-cornered excavator and run it through the amalgam to force a way for the platina pin; this latter is placed, by grasping the pin with forceps and gradually forcing it up as far as it will go, a thin pointed tool can now be used to condense the amalgam around the pin; before this is done, the crown should be tried on to see if the pin is in proper position, if not, the crown can be forced either way and the pin will follow. If an all-porcelain crown be used, it is now filled with amalgam and pressed hard home. That, gentlemen, is a rough sketch of Dr. Bonwill's plan. For many of the details, I must refer you to his paper. I now come to speak of what I have called an improved method of fixing Bonwill crowns, and it simply consists in *first bedding the platina pin in the root, with a foundation of some quick setting cement, which fixes the pin in position at once*; no need to bend it about after it is fixed, no trouble in filling small canals with amalgam. The cavity in the root, is filled only three parts full with cement, the other portion is finished with amalgam, or gold, if you prefer it; the cement can be *poured* into the smallest canal, and has the advantage of cutting off thermal changes. In the all-porcelain crowns, I have effected an improvement in having the pin quite straight, instead of bending it through the hole in the crown. I let the point of the pin touch the porcelain, thus get more resistance to forward the strain, and also giving a greater length to the pin for the amalgam to hold by, thus giving more "fixity of tenure." But after all, gentlemen, nothing but time, and *experience in many hands*, will test the value of this or any other improvement, so I am content to leave it in your hands, and if I can only induce some of you to try Dr. Bonwill's methods, and thereby, reduce the number of plates, and the destruction by extraction of numbers of good roots, which by his method ought to do good service



for a lifetime, I shall be repaid for bringing it under your notice. I will conclude with a quotation from Dr. Bonwill's paper. He says, "I give this plan to the profession with the assurance that there is no other operation in Dentistry which will so delight patients. Instead of patching up crowns with gold, amalgam, gutta percha, &c., &c., you have in this plan 'art concealing art,' recommending itself to the common sense of the patron, and enabling the operator to get well paid for his labour. And suiting itself to the purse of every class of society a plan which will enable us to blot from our practice, in a very great measure, the necessity for Dental plates." If any gentlemen desires to have any further information on this (to me) very interesting subject, I shall be most happy to answer any questions that he may be pleased to ask.

The PRESIDENT said, the plan of fixing the crown with amalgam was a new one, in which he had not had much experience. Pivoting must certainly be considered a very valuable operation, when they had known teeth to stand 25 or 30 years where the root was good and the operation successful. In his opinion these new crowns looked rather frail, as if they would be liable to split if they got a strain.

Mr. BRUNTON said he had not found that to be the case. He had only had limited experience, but Mr. Bonwill said in his paper that he found they were quite strong enough. He was inclined to use ordinary English pivot teeth and drill them out with a diamond drill; but after he got more acquainted with the crowns, he just used those made by White.

The PRESIDENT: And you have not found them liable to fracture?

Mr. BRUNTON: No; not so far as I have gone.

The PRESIDENT said, with regard to his own experience, he had found it difficult to get the pin into its place when the amalgam was in the root. When the root was filled with amalgam it was difficult to find room for the pin. The amalgam would not squeeze out of the root, and great risk was run of forcing small particles of mercury through the root, which would cause alveolar abscess.

Mr. BRUNTON said he took a three-cornered tool, after the root was filled with amalgam, and thrust it into the amalgam.

The PRESIDENT: The effect of that would be very much the same as forcing the pin up. That seems to me one of the difficulties; and I think the same would hold good with regard to any of the plastic fillings.

Mr. BRUNTON: You cannot possibly have that difficulty with the plan which I have described, because the cement is so soft that you can pour it in, and you don't require to use any force at all.

Mr. MATHESON asked Mr. Brunton whether he put in the pin when the amalgam was soft, or whether he waited for the amalgam to set in the root and then put in the amalgam in the crown. If the root were filled and allowed to set perfectly hard first the amalgam could not be got in the teeth and in the root all in one piece.

Mr. BRUNTON replied that, so far as he had gone, he had fixed the crown to the root at once with a quick-setting amalgam and simply seen that the teeth were clear in the bite, cautioning the patient against using them for a little time, and he had found that there was no trouble from that source. Of course, if they wished to be safe, they could let the pin be fixed first and then fix the crown next day. It was not essential that the two amalgams should be quite united if they had the shell fixed firmly to the pin. It was just like fixing a pivot tooth.

#### CUTTING UP AMALGAM.

Mr. ROFF KING, L.D.S. (Shrewsbury) introduced to the notice of the meeting a little instrument which suggested itself to him some time ago, and which, he said, he had found most useful in cutting-up amalgam stoppings. It was composed of a number of small circular saws, so bolted together that the teeth of the one project between those of its neighbour on either side. This, when rotated on the lathe, formed a circular file which might be taken to pieces and sharpened when necessary. Amalgam cut in the form of fine shavings he had also found very convenient, and particularly so in finishing plugs without mercury. These shavings were easily produced by casting an ingot in the form of a wheel. The model which he had brought for inspection answered the purpose well. The centre pin was screwed into the bottom, so that it might be removed in case of dovetailing. The ingot, when placed on a lathe, might be reduced to shavings of any width or thickness, according to the width of the chisel used and the pressure employed.

The PRESIDENT said one point which struck him with regard to the amalgam shavings, was the desirability or non-desirability of putting a dry amalgam on the surface. By so doing they certainly abstracted a portion of the mercury from the lower part of the

filling. The question arose whether this altered the density and bulk of the lower part of the filling. If so, he thought it would not be a desirable course of proceeding. Would it not be better to put some dry amalgam at the bottom, and allow it to absorb a little from the moisture on the surface? Would not that produce a more perfect adaptation of the filling to the surface? He thought that there was very little doubt that a dry amalgam was far better than a wet one, but there was great difficulty in applying it in a dry form in some cavities.

Mr. BRUNTON said this was a question which ought to commend itself to Liverpool Dentists, for they had been charged with using amalgam to a tremendous extent. He could not agree with the President's view. It was always found that the mercury in an amalgam had a tendency to work towards the surface; therefore, if they applied a dryer portion of amalgam to the surface, it would absorb it. In regard to cutting-up amalgam into shavings, he recommended the plan a great many years ago to Mr. Fletcher, but he could not see what advantage there was in it. He told Mr. Fletcher that amalgam cut up into shavings would bind together better than in filings; but Mr. Fletcher did not see the force of his remarks and did not think it worth while to carry them out.

The SECRETARY said he remembered very distinctly seeing the amalgam prepared in a very similar way to that which Mr. King had brought before them, by Dr. Flagg, of Philadelphia, 16 years ago. Dr. Flagg strongly advocated the reducing of amalgam by shavings rather than by filings. He cast his on to a chuck which was fitted on to the lathe, and he gave it a turn and a touch with a small chisel and got his amalgam in a much better condition. His idea was that it was more easily mixed, and he thought it did not take up quite so much mercury.

#### PLASTER OF PARIS.

Mr. ROFF KING; Mr. President and Gentlemen, in the discussion which followed my remarks on Plaster of Paris, at our Manchester meeting in October last, Nitre was suggested as a reliable agent for hastening crystallization,—our President requested me to submit it to the same test which I had applied to other salts then under consideration, and report the result at this meeting. Nitre seems to have a most violent effect in hastening crystallization, and if used in anything like a strong solution, say 1 in 24, will cause plaster to set so quickly as to

render it useless for taking an impression of the mouth. The glass box which I now hand to you contains plaster mixed with a solution of Nitre, 1 in 32, marked No. 1. On plunging the thermometer into it, the mercury rose to  $80^{\circ}$  in one minute and a half, at which time the plaster was sufficiently hard to break with a clear fracture; the heat, however, gradually rose for five-and-a-half minutes, when the thermometer registered  $100^{\circ}$ . No. 2 is a repetition of the same experiment, but with a much weaker solution, 1 in 64; in two minutes the plaster would break well, heat evolved  $78^{\circ}$ , and the maximum temperature  $96^{\circ}$  was attained in seven-and-a-half minutes. If you examine the specimens, you will observe that No. 1 shews a greater degree of expansion than No. 2, a difference which I should not have expected to find, considering the slightly thermal difference between the two.

## MISCELLANEOUS.

Mr. CRAPPER (Hanley) exhibited a cast of the teeth of a child, fourteen years of age, which were of a very abnormal appearance. He also exhibited a cast of the mouth of a male Zulu, showing the typical arrangement or development of the teeth.

Mr. RENSRAW exhibited and explained "The Sanitary Extension Dental Spitton."

The PRESIDENT explained the advantages of an improved gas burner for dental purposes, which he said was an adaptation of one made by Mr. Claud Rogers, of London.

The PRESIDENT also exhibited an incisor taken from the mouth of a young lady who, when running with her school fellows, fell and sustained what would be called a comminuted fracture of the tooth. Not only was the crown of the tooth broken off, but also a portion of the end of the tooth in an opposite direction. The question was what to do. The root was young, and he was very unwilling to subject her to a pivot. He removed the tooth, and then he found that the upper portion had been broken. Of course, if a tooth of the kind had been pivoted, it would have been followed by very extensive alveolar abscess from the broken bit inside. All the fault would have been laid to the pivot, and not to the fracture, of which the operator would have been perfectly ignorant. So that in such cases they must bear in mind that there may be hidden mischief of which they can have no outward appearance for their guidance.

The PRESIDENT next exhibited a cast of a case in which the upper canine had changed places with the bicuspid. He believed



it was rather a rare circumstance, the question, of course, being how did the tooth get there? Was it a displacement of the original germs of the teeth, or did it arise from a change in the position of the teeth during their eruption.

Mr. MUSGRAVE exhibited a lathe and rivetting machine for backing teeth, and also an improved forceps and mallet.

Mr. DILCOCK exhibited two casts to show the difference between a supernumerary and a supplemental tooth, and also to show the mischief which a supernumerary tooth might do if left in the child's head.

The SECRETARY read the following Paper by Mr. W. H. NICOL, L.D.S. (Leeds):

*The Local Treatment of Alveolar Hemorrhage.*

Mr. President and Gentlemen,—This subject is one which is of great interest to the Dentist, as upon it may sometimes hang the life of a patient; though fortunately such risk is so seldom imminent, that some of you may be inclined to smile at my saying so.

Having in the course of my practice met with some cases which have given me a good deal of trouble and anxiety, I considered to bring this subject before you, hoping to elicit some valuable suggestions from the experience of the members of our society, many of whom have doubtless met with cases of hemorrhage.

Hemorrhage is of three kinds, arterial, venous, and capillary; in arterial hemorrhage the blood springs up in a bright red jet, in venous hemorrhage it pours forth in a dark purple stream, while in capillary hemorrhage it oozes from the general surface.

In a healthy patient the division of bloodvessels of small size is followed by contraction of their divided ends, and by the coagulation of the blood on the surface of the wound; by the concurrence of these changes the escape of blood is arrested. But when the vessels have lost this contractile power, or the blood its capability of coagulation, the bleeding, even from a slight and simple wound, may become a very serious matter indeed.

Arterial hemorrhage is rarely met with in the extraction of teeth, though occasionally, from the abnormal proximity of some of the branches of the dental artery, it is a possible occurrence. It is, therefore, with the two latter kinds of hemorrhage that we are chiefly concerned—venous and capillary.

The occurrence of hemorrhage is usually a constitutional affection, and arising either from an acquired condition of the blood, as in scorbutus, or from a natural defect in its composition, as in the ordinary hemorrhagic diathesis. In patients of this latter class, the extraction of teeth, and indeed any operation involving the injury of soft parts, should be avoided, unless the circumstances render it absolutely necessary.

But in the practice of Dental Surgery, the existence of such a state of the system, sometimes is learnt only by the occurrence of prolonged bleeding from the alveolus, or from the statement of the patient *after* a tooth has been extracted.

As the title of this paper indicates, Mr. President, I mean to confine my remarks entirely to the local treatment of alveolar hemorrhage, which I will endeavour to illustrate, by giving short particulars of one or two cases met with in my own practice.

The general, or constitutional, treatment of a patient in such cases, I have always considered better left in the hands of their medical attendant; except such plain directions, as the administration of a gentle aperient to remove what blood may have passed into the stomach, keeping cool and quiet, and avoiding hot drinks, &c., as would occur to any one of the smallest experience.

Upon one occasion I was sent for to attend a patient, said to be bleeding in a most dangerous manner from the extraction of a tooth I had removed for him the same day; on reaching the house, I found him seated, enveloped in a big blanket, beside a large fire, hard at work fomenting with hot water, which process his friends described as "doing all they could to stop the bleeding;" I need hardly say it was not a case of serious hemorrhage at all, except such as was the natural result of the ignorance of the patient and his friends.

The treatment I have found successful in every case, may be summed up in two words—styptics and pressure. Styptics are almost as numerous as are popular cures for toothache; I have only used three myself, namely, matico leaf, perchloride of iron, and styptic colloid; this last is from the formula of Dr. Richardson, I believe: I use that prepared by Messrs. J. Robbins and Co., 372, Oxford Street, London, only; in order to be sure that the quality and strength is uniform, and when from evaporation it becomes too thick, I thin it down, by adding equal parts absolute alcohol and pure sulphuric ether, shaking all well together to mix thoroughly, after pouring into the bottle. I have given up the use of the two first named styptics entirely, in favour of this, having found that in no case did it fail when used properly, and it does not appear to have the same tendency to produce inflammation as perchloride of iron, which forms a great bar to the use of the latter in alveolar hemorrhage.

I make it a point to enquire, after extracting a tooth for a patient I do not know, if I have the slightest suspicion of risk from hemorrhage, whether they have had any trouble after such an operation before, or from bleeding from slight cuts, &c., and I feel sure, indeed *I know*, this course has several times saved both my patient and myself much trouble and anxiety, by having done at once what was required to prevent any risk. In ordinary cases, after extraction, I do nothing but press the edges of the alveolus together with the finger and thumb, and let the hemorrhage

stop by natural means; if there is much pain, phenate of soda about 1 part, in 4 or 6 parts water, used warm as a wash, usually gives considerable relief, and is useful in staying hemorrhage as well.

When there is evidence of persistent hemorrhage, I plug the wound with lint saturated with styptic colloid; after which, if it oozes at the edges, I paint all round with colloid till it ceases, and keep the patient in the house for an hour or two, till I feel sure it is quite safe.

About eight years ago, a young lady 24 years of age, came to me, wishing to have a lower molar extracted, and telling me that the last time she had a tooth extracted, she had had very great difficulty in getting the bleeding stopped; for some time I endeavoured to avoid the operation by treating the tooth, but without success; and as the suffering and want of rest began to tell upon her health, I resolved to risk extraction, having everything ready beforehand to apply pressure and keep it up for some days. The plan I made use of for doing so was this:— (I should premise that the extraction was a very simple one, requiring no unusual force to complete it.) After plugging the wound with lint saturated with styptic colloid, I cut from a piece of guttapercha tube three quarters of an inch in diameter, such as is used for speaking tubes, a piece long enough to extend over one or two teeth in front and behind the wound; the piece of tube was then split, and its edges bent apart, so as to form a long and somewhat bulky clamp, the ends being rounded away at the corners, and one of these being cut so as to fit the rising portion of the lower jaw around the wisdom tooth; after trying it in position and fitting several times till satisfactory, I made a block of soft guttapercha, which was soldered on to the top of the clamp, by heating the block till it was taking fire, and slightly warming the surface of the clamp where it would have to solder, sticking on and moulding into shape and position with the fingers, which should be oiled both for this and in adjusting the clamp when the colloid is applied, to prevent having trouble from either sticking to the fingers; care should be taken not to heat the clamp so as to make it soft, as the slight spring which its sides have is valuable, and would be easily lost by overheating; I then lined the clamp lightly with cotton wool saturated with styptic colloid, renewed the plug in the wound, this time packing it up between the teeth till it was just a trifle higher than their crowns, so as to ensure the greatest pressure over the bleeding surface; the clamp was then carefully fitted to its position, and the patient directed to close her mouth very slowly till told to stop, which was when the teeth in front were about half an inch apart; this plan will allow a patient to swallow with comparative ease, and is valuable as it prevents any sucking of the parts, a point of much importance in such cases. Her face was then bandaged securely, and I did not see her again for two days, when I found all going on well except that the saliva was slightly streaky and tinged with blood; I undid the bandage, held the com-

press securely with the left hand while she opened her mouth, and had all the parts around its edges painted with the colloid, bandaged again, and advised a wash of Condyl's Fluid diluted with water to remove the fetid odour from the breath, which was very offensive indeed; on the fifth or sixth day I removed the compress, when to my astonishment bleeding commenced at the edges of the wound almost as badly as at first; I at once removed the plug and packed afresh as before, replaced the compress and made a more secure bandage than the first had been. I saw the patient every day or two for some ten days, when I removed the compress again and found the bleeding quite stopped; I did not remove the plug, fearing another outbreak, but advised that it be left till nature expelled it. As I have not seen the patient again, I do not know how long it remained, but had it given much trouble I should certainly have heard of it.

Another case which gave me some anxiety was that of a young man for whom I had extracted an upper molar. The wound at the time showed no symptoms of such a nature as to lead me to take any means to arrest the hemorrhage. All went well till he had gone to bed, when profuse bleeding set in; I was called out to see him at two o'clock. a.m., found him in a terribly nervous state, and bleeding more freely than at the time of the operation. I applied the compress I have already described, and saw him twice afterwards, removing it at the end of four days, when all bleeding had quite stopped. I think a bandage with a piece of elastic, and buckle at each side, would be a great assistance in treating such cases, especially if the bandage were fitted a little to the chin and head, as there is often difficulty in keeping a single bandage secure during the night. Indeed, I believe this may have had something to do with the difficulty I experienced in the first case I have described, the loosening and slipping of the first bandage causing more or less displacement of the compress.

The "chin appliance" sold by Messrs. Ash for use in cases of protruding lower jaw, or a modification of it would be just the thing wanted. I got one about a year ago, but so far have not met with a case upon which to try its effect. Should I ever be so unfortunate as to meet with a case of hemorrhage which will not yield to such a simple compress as I use, I think the best plan would be to take impressions of both upper and lower jaws, then strike silver plates to fit over all the teeth and alveolar ridge, making it extend further over at the bleeding portion to which I would attach springs about No. 10 to No. 12 strength, supporting the lower jaw against the pressure of the springs by one of the elastic-sided bandages I refer to, and of course packing up the wound as in the other compress. Such an arrangement could be made in a few hours, and I think would prove a very effective one, and it would better allow the patient to take nourishment than a rigidly fixed compress, a matter of no small moment if it has to be worn for any



great length of time. I sincerely hope, however, I may never have occasion to test its value. Through the kindness of my old friends in Edinburgh, I have obtained the loan of an exceedingly ingenious compress for the arrest of alveolar hemorrhage, invented by the late Dr. William Alfred Roberts. It was on loan to the museum of the Odonto-Chirurgical Society; but upon my asking that I might be allowed to have it to exhibit at this meeting of our society, it was sent to me at once, and I think I cannot conclude this paper without giving a short account of the fatal case of hemorrhage which was the cause of Dr. Roberts turning his attention to this subject so earnestly, the result of which was the production of this exceedingly well thought out instrument. The only difficulty it had to contend against being that of its expense, a serious matter to many, considering one may never require it at all. Many of our members may know of this case already, but for the sake of those who do not I will beg your forbearance with me, while as shortly as possible I will tell it in the doctor's own words, written by him at the time. "Mr. C. P., of middle age, rather full-sized body, called on Sunday, 19th December, 1841, requesting to have a tooth removed that had given him some uneasiness for a length of time. I found the dens sapientiae of right side in lower jaws loose, the crown gone, and removed it without difficulty with forceps generally used for extracting the temporary teeth of children; it had three small fangs, the anterior being the longest. The hemorrhage, nothing more than usual, had ceased ere he left, the alveolus being plugged with lint, wetted with camphorated spirit of wine. At half-past four of the same day he called again, the blood running in a continuous stream, evidently from the anterior alveolus. Cleaned it out from the bottom and filled it up firmly with a strip of lint pressed down with a curved instrument. When full applied a compress of cork fitted to the part and pressed upon firmly by the upper teeth; likewise securely bandaged the jaw. At this visit the patient informed me that he had a tooth taken out a few years ago which was followed by copious hemorrhage for nearly three days, but was checked by the application of caustic, as also that lately his gums had bled to a considerable extent. Of all this I unfortunately was ignorant until after three hours had elapsed from the removal of the tooth. I was sent for early on Monday morning and found the hemorrhage had continued without intermission through the night. I found no coagulum about the mouth or in what he had spat out, as in ordinary hemorrhage, the alveolus being as clear as when the stump was first removed. I put a piece of lunar caustic the size of a pin's head into the bleeding alveolus, pressed it down and plugged with sponge tent (sponge soaked in hot wax, then compressed; when used the heat softens the wax, the sponge swells, and thus wedges the cavity it is introduced into), and bandaged as formerly. Styptics, lotions of kino and alum were used with benefit. For more than an hour after this all appeared safe.

In the course of the day Dr. Hay, of Queen Street, the family medical man, saw him, and found the hemorrhage as bad as ever. Applied various styptics without doing much good. On the 21st Dr. Hay applied the actual cautery without benefit, attributing this to the instrument used, the first thing at hand, being too thick at the point. I followed up Dr. Hay's suggestion, and used an iron better adapted to reach the bleeding vessel, but with no good result. During the operation the patient started, by which the under lip was slightly burnt; and here the blood continued to flow from the lip pretty freely for several days. Our success until the 23rd was various, and on that day, if anything, the hemorrhage was worse, and accompanied by alarming symptoms, with weak pulse, giddiness, &c. I had serious thoughts it would be necessary to take up the carotid. Towards evening an improvement took place, the bleeding being once more under command by pressure, &c., mild purgatives, ordered in consequence of a considerable quantity of blood having been swallowed. At two a.m. of the following morning I was sent for, as the patient had sunk to an alarming degree. Dr. Hay and myself attended immediately; we found him recovering from a fainting fit. Wine given, &c. He rallied, and upon examination found there was now no actual hemorrhage from the original source, nor was there any afterwards. In the course of the day Mr. Nasmyth saw the case which was going on favourably, with the exception of a tolerably smart oozing from the gums, and a slight bleeding from the left nostril, which commenced after the hemorrhage from the alveolus had become less active. Upon the removal of the bandages the face was found much discoloured and swollen from the effusion of blood into the cellular tissues, giving all the appearance of the result of a blow. Pulse good, countenance less anxious; getting a quiet sleep occasionally. The sloughs drying up under the use of camphorated spirit of wine, and latterly of turpentine. Mild aperients given, a little wine, and the use of tonics; up to the 27th, upon the whole continuing to improve. The oozing from the gums and nostrils being occasionally troublesome, a strong solution of nitrate of silver was painted over them with advantage. At this stage Dr. Hay and Mr. Nasmyth considered it unnecessary to continue our meetings as we had done, but to see him occasionally, Dr. Hay taking charge of the case, the patient continuing much in the same state until 7th January, 1842. I had not seen the case for two days, when Dr. Hay informed me that a change for the worse had taken place—all the old symptoms, aggravated by a severe pain all over the mouth and head. Mr. Nasmyth and myself saw him on Sunday, the 9th, the third from the removal of the tooth, and found him much reduced, the gums turgid to a remarkable degree, and of a deep purple colour, almost covering the teeth and bleeding freely; the blood was again oozing from the alveolus and slightly from the nostril; the features collapsed; complained of blindness; the cheek still discoloured, and all

the symptoms of the disease "purpura hemorrhagica" more decided. Mr. Nasmyth employed a solution of proto-nitrate of mercury to the gums, which only checked the hemorrhage for a short time. Wine (claret) given freely; stimulants, tonics, &c. On Sunday, the 9th, Dr. Abercromby was consulted; but although all was done that such eminent men would be expected to do, death put an end to this painfully interesting case on the following Tuesday, being three weeks and two days in duration."

This account is copied from a report of the case written by Dr. Roberts himself and published in one of the medical journals of the time, and I hope that an inspection of the very ingenious contrivance which I now hand round, may be some recompense for the patience you must, I fear, have felt it necessary to exercise in listening to my rather lengthy remarks.

Mr. T. S. CARTER said the paper was certainly a very interesting one, and the author had given them many hints which would be useful in practice. When in London in 1875, he (Mr. Carter) obtained the history of a case of bleeding, which lasted more or less continuously for 19 days, at St. Thomas's Hospital. The patient had a tooth extracted on the 2nd August, and was admitted into the hospital on the 10th. In the meantime he had been treated by a medical practitioner, and had lost a great deal of blood. On the 10th August, lint, with a strong solution of perchloride of iron, was put into the cavity left by the extraction, and afterwards solid perchloride was used. This caused a great amount of swelling, and seemed to do harm. There was more bleeding on the 11th, and on the 13th the patient lost about half a pint of blood. On the 14th he was put under ether, and actual cautery was applied, and this was the means of stopping the bleeding for about 20 hours. He bled a little on the 15th and 16th, and on the 17th the cautery was again used, causing a total cessation of the bleeding for 18 hours. On the 18th the bleeding re-commenced, and wool and a solution of iron was tried, with a sub-cutaneous injection. On the 20th the bleeding still continued, and the patient had an attack of delirium. On the 21st, plugs of gutterpercha and Attwood's plugs of Plaster of Paris were applied, but without avail. On the 23rd, the patient having lost during the three previous days at the rate of about a pint of blood per day, was in a very exhausted state, and spoke of noises in his ears and bright objects before his eyes. About ten grains of gallic acid were given to him about every two hours, and he had an injection of morphia at noon, and another

at midnight. On the 25th, a plug of lint and perchloride of iron was applied. On the 27th there had been no bleeding for 40 hours, and on the 3rd September the patient was able to leave the hospital. The actual cautery did not seem to be often used in these cases. There was always the danger of increasing the bleeding surface by catching the lip with it.

Mr. CRAPPER mentioned the case of a patient of his, who, having had two incisors which troubled him very much, removed, suffered severely from hemorrhage, was a fortnight in bed, and nearly lost his life. He had since had other teeth removed; but, instead of removing them by means of instruments, in the usual manner, he (Mr. Crapper) simply put round the tooth a small elastic band soaked in acid, which gradually worked it out. That was the only method that could be adopted, because, however loose a tooth was, it would have been most dangerous to extract it.

Mr. MUSGRAVE said, that in a case of severe hemorrhage which occurred in his practice, he packed the socket with a strip of wool dipped in perchloride of iron, and gave the patient 10 drops every hour. In the course of two hours, the hemorrhage stopped. Having cause to operate on her two months afterwards, he prepared her by giving her a saline mixture, and he extracted the tooth with only a few drops of hemorrhage.

The PRESIDENT said he had himself found very useful a plan which had not yet been mentioned. Supposing a socket, from which a tooth had been removed, had a tooth on each side, very strong pressure could be brought to bear on the alveolus, by means of a slice of cork cut to fit in between the two teeth. In one or two cases, he had found this plan very efficient indeed, cutting the cork to fit tight between the teeth, packing the cavity well, and pressing the cork on the plug to keep it in its place. Some time ago a lady came to him with two canines—right upper and lower canines—which were projecting very much. She was a married lady, and had a great deal of trouble from hemorrhage after slight injuries, and the surgeon who accompanied her was very unwilling to have the teeth removed. He (Mr. Campion) said he was not afraid of the hemorrhage, and, having removed the teeth, he packed the cavities with cotton wool and powdered tannin. The only trouble that arose was, that when she wanted the plug removed, she did not come to see him, but was content to see the surgeon. The packing consisted, not of one continuous piece of cotton, but three pieces. The surgeon took out two, and thought



he had taken out all. The consequence was that the third—the tight plug—was left in the bottom. After suffering great inconvenience, she consulted a dentist in London, who never examined the cavity, but told her to syringe it. Ultimately, she came to him in great pain and trouble. The moment he put a probe into the cavity, he found the plug there, removed it, and there was an end of all the trouble.

Mr. WILLIAMS said he tried Mr. Campion's cork plan some time ago, but found it a complete failure.

Mr. BRUNTON said it would be interesting to know whether the tendency to bleeding was hereditary. (The President: Certainly). In a family he attended, the mother bled very much after a cut or the extraction of a tooth, and he avoided as much as he could, doing anything for her in the way of operating. One of her daughters, who was fair, also bled very much; but the other, who was dark, was free from the tendency.

Major STEWART, referring to a case which had come under his notice, remarked that young ladies were more liable to excessive hemorrhage at a particular period than at others.

Mr. TURNER thought, that in a case of hemorrhage, gallic acid was of all drugs the most efficacious.

The PRESIDENT mentioned a case which came under his notice when he was at St. Bartholomew's, of which he was reminded by Mr. Turner's remarks on the benefit of gallic acid. A man came with a wound on the palm of the right hand, dividing the palmar arch, which had been treated by compress at some other hospital, and the bleeding stopped for a time, but it had again returned, and the whole palm of the hand was in a state of slough, so that it was impossible to find the ends of the divided arteries. The whole of the surgical staff advised amputation, but Mr. Skey, whose patient the man was, said he had several times tied the ulnar and radial arteries successfully, and he would tie every artery in the man's body before he amputated. The man was watched day and night for more than six weeks, during which time Mr. Skey had to tie the ulnar and radial arteries twice, the brachial twice, and the axillary once; on the ligature of the axillary artery coming away, the hemorrhage returned, and was finally arrested by a graduated compress, the hemorrhagic diathesis having been arrested by the large quantities of gallic acid and other remedies which had been taken. Some two months afterwards he saw the man, who was then regaining to some extent the use of his arm. It

was, he supposed, one of the most remarkable cases on record. The difficulty, of course, in all such cases was the hemorrhagic diathesis. They might have another difficulty, such as he once met with. One morning, about 8 o'clock, a physician brought him a gentleman suffering from hemorrhage from the side of a loose bicuspid tooth. He was an elderly gentleman, and was very unwilling to have the tooth removed; and he (Mr. Campion) confessed that at first sight he did not feel disposed to remove it, fearing hemorrhagic diathesis. He put a compress round the tooth and stopped the hemorrhage. This was taken off the following day, and the gentleman returned the following night, having in the meantime lost a great deal of blood. He then said, "Come what will, I must take the tooth out." He did so, and the bleeding stopped from that time. His belief was that the tooth, being a loose one, had torn some small artery half through, and the artery, not possessing sufficient contractile power, was unable to close; but as soon as the tooth was taken away, it divided the rest of the artery and the artery contracted in the usual way. The old gentleman lost so much blood that he believed it shortened his life. This showed that in certain cases where teeth were loose they might be doing wrong in not removing them.

Mr. DILCOCK said, a little boy was brought to him the other day by his father to have his tooth extracted under gas. He gave the boy the gas and extracted the tooth very successfully, but to his astonishment, when the little fellow was coming to, he noticed blood pouring from his nose. It rather alarmed him, for he could not account for it. After a time the bleeding stopped, and, as he had heard nothing more of the case, there was no doubt it was nothing serious.

The PRESIDENT said, it would appear to him not at all impossible that the bleeding was the result of congestion, caused by the gas.

Mr. LEONARD MATHESON, L.D.S. (Manchester), then read the paper on "The Use and Abuse of some of the Medicaments employed in the local Treatment of Diseased Dental Pulp and Alveolar Abscess," which appeared in our last issue.

The PRESIDENT said Mr. Matheson's paper comprised a great many interesting points which were constantly coming before them in their practice, and he hoped it would not be allowed to pass without some remarks. It struck him that there was one point to which Mr. Matheson had omitted to refer, and that was

the time that arsenic was allowed to remain in the teeth. He believed the plan was suggested a short time ago of permanently using the arsenic as an antiseptic, leaving it under a permanent filling; but he had never tried it himself. There were many other points in the paper which were open for discussion.

Mr. KING said he thought the paper had treated so fully and thoroughly all the points that there was nothing to discuss.

The PRESIDENT said they had all felt, of course, the difficulty Mr. Matheson mentioned in the application of the drugs they had used for devitalising a pulp in cavities difficult of access. He himself had found great advantage in those cases from the use of a preparation called "azotine." It is a preparation of cotton. He was inclined to think it must contain a preparation of arsenic as well as the oil of cloves with which it was flavoured. They must all feel the objection to the use of paste, because the warmth of the mouth rendered the paste still more fluid. If it were composed of creosote or the dried oil of tar, the warmth of the mouth was sufficient to make it fluid, and, if the stopping did not fill the cavity, it was certain to flow out and create a great deal of trouble.

Mr. MUSGRAVE asked if any gentleman had tried atrophina mixed with arsenic—sulphate of atrophina instead of morphia. He had used it himself with very great success as a sedative.

Mr. MURPHY said with regard to the arsenical treatment of pulps, he had for some years past used equal parts of lithia and arsenious acid, in the dry state, in a small quantity of cotton saturated with carbolic acid; and in 19 cases out of 20 there had been no complaint of pain, and where there had been any it had only been for about an hour after the application.

Mr. CRAPPER said when they bought arsenious preparations they did not always know the amount of arsenic they had with the cotton wool, and, therefore, it would be much better to use the cotton wool charged with oil of cloves, or whatever preparation they liked, and use it in the manner described by Mr. Murphy. They would then know what they were using. There were certain nostrums which were very dangerous. They knew that very minute quantities of arsenic should be used if any at all.

#### VOTES OF THANKS.

Mr. S. WORMALD said he had the high honour to move—

"That the cordial thanks of the Members and Associates of the

Midland Counties Branch of the British Dental Association, be hereby conveyed to the President and Council of the Liverpool Medical Society, for their kindness in placing the Hall of the Medical Institute at the disposal of the Branch, for this day's meetings, free of all cost."

He was sure they could not have been accommodated in any town with a more comfortable place of meeting, and it would be a waste of words on his part to ask them to appreciate the kindness of the Medical Council. He hoped to see this kind of sympathy between the medical and the dental profession growing more and more as time rolled on. It would create greater cordiality between them, which would be better for both professions. Such acts of kindness were calculated to inspire mutual confidence and respect, and he was sure he need not say anything more to commend the resolution to the meeting.

The PRESIDENT said he thought it was hardly worth while to ask anybody to second the resolution after the cordial way in which it had been received, evidencing the unanimous feeling of the meeting. He hoped, therefore, they would allow him to say that it was carried by acclamation. He would also further suggest that the Secretary be requested to send a copy of the resolution to the Medical Council, showing them how fully the Association appreciated their kindness.

Major STEWART said, he must state that when he saw the President of the Medical Council with regard to the use of the Institute for the meeting of the Association, that gentleman quite concurred in the desirability that the meeting should be held there and in no other building in Liverpool. He said that laying it before the Council was a mere matter of form, and assured him that, if at any future time the Association came to Liverpool, the Institute would be open to them or any other society connected with the dental profession.

Dr. D. A. WORMALD next moved, and Captain NEWMAN seconded, a vote of thanks to the gentlemen who had favoured the meeting with papers and casual communications, and the motion was carried unanimously.

Mr. NICOL moved, that the best thanks of the meeting be given to Mr. Campion for the manner in which he had presided over the Association during the past year, and also for having undertaken the duties for the year on which they had just entered. He knew that Mr. Campion would very much rather have declined the presidency this year and had a quiet rest, but the Council, at its



last meeting, pressed him almost to rudeness to take the office. He was sure they were all very much indebted to Mr. Campion; in fact, only those who had been closely associated with him, knew how much the Association owed to him.

Dr. WAITE said he could not allow any one else to have the honour of seconding this motion. He had stated in the morning and he was glad to repeat it, that, as Mr. Nicol had said, no one but those intimately associated with Mr. Campion knew the extent to which they were indebted to him for his good sense and tact in conducting the Branch. He would like to include the Vice-President also in the vote. It ought to be known that they were entirely indebted to Major Stewart's influence for the use of the Medical Institute; and when it went forth through the press that the meetings had been held there, that fact alone would give a stamp of importance and value to their proceedings which they would not otherwise have had. He might add, that they were very much more largely indebted to Major Stewart than they knew of for the whole of the arrangements connected with the day's proceedings; and he hoped, therefore, that Mr. Nicol would allow his name to be included.

The PRESIDENT, after thanking the members for their kind appreciation of what he had done for the Society, said he felt that they owed a great deal to their Vice-President, Major Stewart. When he (Mr. Campion) was urged to accept the office of President, the worthy Vice-President and Secretary told him that he should be free from all responsibility, and he was only too glad to have an opportunity of acknowledging the thoroughly efficient way in which they had carried out that promise. All the arrangements had been made without the slightest trouble or responsibility on his part. He had been consulted at times, but he could claim no credit for the efficiency of the arrangements which had been carried out by their worthy Vice-President and Secretary. Hoping that the third and last act of the entertainment would be as agreeable and profitable as the two that were over, he thanked the members for their attendance and support.

Major STEWART said he thanked the meeting very much for the cordial way in which the vote had been passed. It would always be his pleasure, as it was his duty and interest, to do all he could to assist the noble dental profession.

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## Review.

*The Dentists Act, 1878, and Counsel's Opinion thereon.*

*The Dental Minutes of the General Medical Council.*

*Reports of the Meetings of the Medical Council, February 3, 1881, and April 28, 1881, in "The Journal of the British Dental Association," February and May, "The Medical Times and Gazette," 1881.*

THE perusal of the Minutes of the General Medical Council and of the February and May issues of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION, cannot but have caused great satisfaction to all of the profession who have its true interests at heart; and the general result of the efforts of our leading men, in conjunction with the thorough and earnest attention paid to Dental interests by the General Medical Council, must be a source of gratification to all. If some discontent is felt by the profession and shared by Members of the Council, it is on the question of Registration, which at present seems to some extent to block the working of the Dentists Act.

It will not, therefore, be considered devoid of interest to review the origin of this discontent, which arises from an opinion—given by high legal authority—as to the meaning of the registration clauses of the Act, and tentatively adopted by the Medical Council. We shall endeavour to point out why the public feeling of the Dental profession cannot be completely satisfied with the present state of affairs; and, while fully recognising the benefits which have been secured to the profession by the general scope of the Act, we shall draw attention to its comparative failure in one respect, under the interpretation at present accepted by the Medical Council of the meaning of subsection (c) of section 6 of the Act. At the same time we shall state reasons why the Dental profession would be justified in challenging the correctness of this interpretation.

It will be necessary in pursuing this object to allude to, or partly quote, the legal opinions which have hitherto been obtained on the construction of the clauses in question.

The main questions as to registration arise with respect to the meaning of section 6 of the Act, which states:—

“That any person who is at the passing of the Act *bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately, or in conjunction with the practice of medicine, surgery, or pharmacy, shall be entitled to be registered under the Act.”

It would probably not occur to the ordinary mind that the interpretation of such plain English words could be much at variance with their grammatical import, still less that they would be ignored or held to mean almost the opposite of their bare sense. The Dental profession have construed the section to mean that only persons were entitled to be registered who, at the passing of the Act, were simple Dentists, or who, together with Dentistry, practised medicine, surgery, or pharmacy, being legally entitled to do so by virtue of registration under the Medical Act or the Pharmacy Act. It was in accordance with these views that the Representative Board at once acted; and on finding that a number of persons had registered as being engaged in the practice of Dentistry, with pharmacy, who were not on the Chemists' and Druggists' Register, while others had registered who were practising Dentistry in conjunction with business not recognised in the Dentists Act, obtained Counsel's opinion that the names of persons so registered could be removed under the Act from the Register.

This opinion (of Mr. G. A. R. FitzGerald), with the alleged cases of incorrect Registration, was sent to the General Medical Council, and by them, with Mr. C. (now Mr. Justice) Bowen's opinion added thereto, submitted to the Dental Committee for an investigation of facts.

Neither the Medical Council nor even the Executive Committee, so far as can be seen from their minutes, authorised a further appeal to Counsel. But upon some authority—it does not appear what—and, acting apparently without regard to the two opinions submitted to them by

the Medical Council, the Executive Committee proceeded to seek further opinions on the subject. These opinions, however obtained, were in the first instance, those of Sir F. Herschell, and of Mr. Vaughan Hawkins, and subsequently of Sir F. Herschell and Mr. Muir Mackenzie.

The general result with reference to Registration and to section 6 of the Act will be fresh in the memory of our readers, and has been fully stated in our February issue, and in the minutes of the General Medical Council for 1881. It would seem that the effect of the above opinions would be to render meaningless the words "either separately or in conjunction with the practice of medicine, surgery, or pharmacy," and that according to the view taken by these Counsel, the only condition necessary to Registration is, that a person shall have been in the *bonâ fide* practice of Dentistry at the passing of the Act, irrespective of his pursuit of any other business concurrently.

A mechanical obedience to the opinion of such eminent Counsel, was—unless an equally authoritative opinion were at hand—the obvious course open to the Medical Council. And it must be remembered that, though such opinion is not in itself law, when, as in this case, it passes unchallenged, and is acted upon, it becomes the virtual law which affects the profession.

We must confess that this opinion would seem to us to override the meaning of the words of the Section, the intentions of the promoters, and the beneficial and remedial scope of the Act. The acceptance, however, of such construction is by no means incumbent on the Dental profession, who are already armed with Mr. Fitzgerald's opinion, upon which, it will be remembered the Dental Association, through their solicitor, acted in writing to persons who, according to that opinion were improperly registered within the meaning of the Act, and in suggesting that they should withdraw from the Register.

This opinion appears to us to put a fair common sense interpretation upon the section in question, and to follow the grammar and spirit of the Act. It states that, "A



person who, being at the passing of the Act engaged in the practice of Dentistry and also in some business not mentioned in the Act, declared himself to have been engaged in the practice of Dentistry separately, or a person who declared himself to be engaged in the practice of Dentistry in conjunction with Pharmacy, but whose name was not in the Chemists' and Druggists' Register, is liable to have his name erased from the Register." That appears to us to be a fair interpretation of a section which needed legal ingenuity to become obscure.

It must be remembered, too, that this view is borne out by the construction generally put on beneficial Acts of Parliament, and by the meaning of the Dentists Act when construed, as it should be, in connection with the Medical Act 1858, and the Pharmacy Act 1868. We believe it to be a maxim of law that remedial statutes, which are passed for the benefit of the public, are to be construed liberally and beneficially, so as to promote as completely as possible, the remedial nature of the Act, and to give life and strength to the remedy.

The preamble of the Medical Act 1858 (21 and 22 Vict. c. 90), gives, as the reason for its passing, that "it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners;" and the preamble of the Pharmacy Act, 1868 (31 and 32 Vict. c. 121), states that the Act is passed because "it is expedient for the safety of the public, that persons keeping open shop for the retailing, dispensing, or compounding of poisons, and persons known as chemists and druggists should possess a competent practical knowledge of their business, &c." Both preambles thus clearly show that they were promoted and passed for the protection of the public: and a person not registered under the Medical Act is subject to a penalty if he takes the title of physician or any similar title; and under the Pharmacy Act 1868, a person not registered under that Act is liable to a penalty if he takes the title of chemist, druggist, or any similar title. When, therefore, section 6 of the Dentists' Act

speaks of "the practice of medicine, surgery, or pharmacy," the legislature must surely have meant the practice by legally qualified (that is registered) practitioners. The legislature could scarcely have intended to define the legal practice of medicine in one statute, of pharmacy in another, and subsequently stultify its own definitions in an analogous statute.

As to the wish of the promoters of the Dentists' Act, there can be no doubt that the intention of section 6 was to allow to be registered only persons who were pure and simple Dentists, or who practised Dentistry together with the legal practice of medicine, surgery, or pharmacy, and to exclude the possibility of (for example) veterinary surgeons or herbalists, who occasionally extract teeth, from claiming to be registered under this Act. The continuance of such practice, it is to be noted, is not forbidden or interfered with; it is the assumption of a title to which the practitioners have no claim, and which is, therefore, calculated to mislead the public, that is prohibited. While dealing with this question, we may be permitted to again express some surprise at the cloud of mystery thrown over the proceedings taken by the Executive Committee in reference to the crisis at which legal opinion was taken by them on a matter of deep interest to the Dental profession. It is understood, and, indeed, is stated in the minutes of the Medical Council, that an opinion was obtained by the Executive Committee of the Council from Mr. (now Mr. Justice) Bowen, and it is further understood that it was not materially at variance with that of Mr. FitzGerald. This opinion was discussed by the Council with closed doors in conjunction with Mr. FitzGerald's, and, notwithstanding the reference, it was wholly ignored in the report of the Dental Committee to the Council. A new opinion (by whose authority sought we have no evidence) was substituted for it, and was only communicated at the last moment to the members of the Council, under seal of strict secrecy, a few hours before the meeting of Council; and thus in a quasi-arbitrary fashion withheld

from the Dental profession, whose leading members had just grounds for complaining that they were deprived of the right and opportunity of being heard on a subject on which they were alike competent and willing to give sound advice.

It is no secret that the astonishment and disapprobation felt by Dentists, was and is shared by many of the members of the Medical Council, and it would be interesting to know why Mr. Bowen's opinion has never been communicated to the public, and why no allusion is made in the case laid before Sir F. Herschell to that opinion, or to the opinion of Mr. FitzGerald?

The Medical Council are the trustees of the Dentists Act, and their conduct throughout has been worthy of their reputation for acknowledged fitness and candour. But in the interest of the Dental profession and public, we would emphatically protest against any inconsiderate, not to say high-handed proceedings on the part of the Executive Committee, either in withholding information from those who are capable of giving valuable evidence on a professional matter, or in giving any semblance of prescribing to the Medical Council the course which the Executive Committee think right should be pursued towards themselves.

To resume the main thread of the question, let us ask ourselves how does the matter of the working of the Act with respect to Registration now stand? We think that the answer to that question, by those of the profession who have made themselves acquainted with the proceedings laid before the public from the beginning of the movement, would be a unanimous expression of disappointment. We can only describe it as an unsatisfactory conclusion to a high-minded attempt. The present working of the Act in one of its salient points, namely, as to qualifications for admission to the Register of existing practitioners, is dictated by, and rests solely upon, the opinion of Sir F. Herschell, and we cannot but think that if this opinion and its result are to remain without a

protest, one of the principal aims entertained by the promoters of the Act will be sacrificed.

The main question, as we have stated, as to the power under the Act to purify and keep pure the Register, depends on the interpretation of section 6 of the Dentists Act. As long, therefore, as the matter is allowed to rest supported in its present position by the force of one opinion, it is impossible to view the case with satisfaction, and we shall advance the dignity of the profession, and at the same time proceed in no unkindly spirit to the Medical Council, if we urge upon the Dental profession to combine with its leading members in obtaining an opinion from counsel, as high in the legal profession as Sir F. Herschell, upon the whole merits of the case. Armed with such an opinion, if favourable to our view, the cases should be carried into a court of law, and the matter finally set at rest by a judicial decision of the Courts. In this and this way only can we see any practical way of solving a question which is vitally important to the Dental profession. It would indeed be a tame ending to a spirited and unselfish movement upon the part of the leading Dentists, whose conduct and motives throughout have been approved by their profession and the public, to allow the Dentists Act, the Charter of their new professional life, to fail in its application, and be shorn of one of its chief objects from a want of determination to sift the question thoroughly, and to bring to the certainty of a judicial decision what is now only a high legal opinion.

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The following table drawn up by Mr. S. J. Hutchinson, shows the extent to which the Dental follows in the line of the Medical course of study, as referred to in our leader of last month.

A COMPARATIVE STATEMENT of the respective Courses of Study required by the Royal College of Surgeons of England of Candidates for the Membership and for the Licentiatehip in Dental Surgery.

*Curriculum for the Membership.*

1. An Examination in Arts.
2. Being 21 years of age.

*Curriculum for the Licentiatehip in Dental Surgery.*

1. The same.
2. The same.



*Curriculum for the Membership.*

3. Having been engaged in acquiring professional knowledge during four years.
4. Anatomy Lectures: 2 winter sessions.
5. Dissections: 2 winter sessions: 12 months."
6. Physiology: 1 winter session.
7. Practical Physiology.
8. Surgical Lectures: 1 winter session.
9. Practical Surgery: 6 months.
10. 1 course of Chemistry (optional).
11. 1 course of Materia Medica.
12. 1 course of Medicine.
13. 1 course of Forensic Medicine.
14. 1 course of Midwifery.
15. 1 course of Pathology.
16. Practical Pharmacy and Vaccination: 6 cases.
17. Practical Chemistry.
18. Practice of Surgery: 3 winters and 2 summers.
19. Examination of patients: 3 months.
20. Clinical Lectures on Surgery: 2 winter and 2 summer courses.
21. Dressership: 6 months.
22. Post-mortem Demonstrations.
23. Practice of Medicine: 1 winter, 1 summer. Clinical Medicine.

*Curriculum for the Licentiate'ship in Dental Surgery.*

3. The same.
4. The same or second special course on the head and neck.
5. 9 months.
6. The same.
7. (Say) *Metallurgy*, 1 course.
8. The same.
9. See 18.
10. The same (imperative).
11. The same.
12. The same.
13. } 2 courses *Dental Anatomy and Physiology.*
14. }
15. } 2 courses *Dental Surgery and Pathology.*
16. }
17. The same.
18. 2 winters. *And 2 years' practice at a Dental hospital.*
19. (*At a Dental hospital*).
20. 2 winter courses.
21. } 2 courses of *Lectures on Dental Mechanics.*
22. }
23. } 3 years' *Practical Mechanical Dentistry.*

The subjects common to the two courses of study must in each case be attended at a recognised General Hospital and Medical School, and the subjects special to Dental Surgery (printed in italics) at a recognised Dental Hospital and School or the recognised Dental departments of a General Hospital and School.

Four years is the time allotted to study for the Membership and for the Dental Licentiate'ship, and six years will not be more than sufficient for the acquirement of the two qualifications.

The following qualifications can, on application being made by the holders thereof to the Registrar, be added as additional qualifications in the "Dentists' Register."

A fee of five shillings must accompany the application, which must be attested by the production of the diploma, or by a reference to its record in the Medical Register.

Fell., Mem., Lic., Ext. Lic., R. Coll. Phys. Lond.  
 Fell., Mem., R. Coll. Surg. Eng.  
 Fell., Lic., R. Coll. Surg. Edin.  
 Fell., Lic., Fac. Phys. Surg. Glasg.  
 Fell., Lic., R. Coll. Surg. Irel.  
 Mast. Surg., Univ. Camb.  
 Mast. Surg., Univ. Durh.  
 Bac. Surg., Mast. Surg., Univ. Lond.  
 Mast. Surg., Univ. Edin.  
 Mast. Surg., Univ. Aberd.  
 Mast. Surg., Univ. Glasg.  
 Mast. Surg., Univ. St. And.  
 Bac. Surg., Mast. Surg., Lic. Surg., Univ. Dubl.  
 Mast. Surg., Lic. Surg., Q. Univ. Irel.

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### Dental Fistula.

IN the fifth volume of the "St. Bartholomew's Hospital Reports," is a paper by Sir James Paget entitled "Residual Abscesses," written in his characteristic, lucid and graphic manner. Now although the subject of our heading cannot be quite included with the cases which Sir James Paget has in view, there are points of resemblance which we think may well occupy our attention, and their consideration may likewise assist us in determining their treatment.

"Under the name 'residual abscesses,'" says the above writer, "I would include all abscesses formed in or about the residues of former inflammations. Most of them are formed where pus, produced long previously, has been wholly or in part retained and become dry, or in some form 'obsolete.' But some of them, it is probable, are formed in the *thickenings, adhesions, or other lowly organized products of inflammation* long past.

"Abscesses thus formed are probably well known to many, but to give them a name and separate illustrations may help to show that they are of more frequent occurrence than is commonly supposed, and are often important

in diagnosis. Suppuration among the products of a former inflammation is probably an illustration of what may be held as generally true concerning many relapsing inflammations, namely, that they are due to the disturbed or interrupted nutrition, not only of the tissues deteriorated in previous inflammations, but of the new materials that were formed among them. Thus in the frequently relapsing inflammations of testicles, and joints and other parts that one sees in a constantly '*fretful*' state, the '*weakness*,' '*low vitality*,' or '*want of tenacity of composition*,' which are indicated by frequent inflammation under every slight provocation, are to be ascribed rather to the remaining products of former inflammation than to the original textures of the parts. Thus adhesions become inflamed, and residues of pus degenerating under any irritation initiate or take part in a renewed suppuration."

Dental fistula, in common with fistula in other parts of the body, has mostly its origin in an abscess, the result of inflammation caused by some irritation set up in the tissues of the body, and which has evacuated itself upon an external surface; the persistence of the irritant on the one hand or the damaged condition of the tissues, the result of inflammation on the other, continuing the process of suppuration, only on a smaller scale. Whilst the majority of dental fistulæ have their origin in the above mentioned manner, cases occasionally present themselves which might come fairly within the category of "residual abscesses."

The history of such cases may be described as follows:—A tooth, most probably a necrosed one, became the subject of an attack of acute periodontitis, which subsided at what we may term the second stage of the disorder, *i.e.*, when effusion, cell migration, and to some extent cell proliferation had taken place. The result was a long continued swelling, but without any evacuation of its contents. Years after the above described attack, and when its only remains are to be detected in a little thickening upon the body of the inferior maxilla, and

when the tooth that was the cause of it has become serviceable and free from tenderness, or even in some rare cases has been altogether removed, abscess in a very chronic form opens externally in the neighbourhood of the old mischief. The case then appears a very puzzling one, and, unless read in the light of Sir James Paget's article, may involve the practitioner in considerable perplexity.

In most such cases defective teeth are probably sought for, and if found removed, but yet the trouble continues, and we freely admit that in the treatment of these cases our efforts are often anything but satisfactory. Still, if we have comprehended the true nature of their origin, our treatment will, at least, be not empirical; and as it will be applicable to all cases of persistent dental fistulæ as their cause is, we believe, one and the same, we may enter rather more fully into a consideration of the subject of our heading.

Dental fistula, if we restrict the term—which we admit we have no warrant for—to an opening upon the external surface, discharging more or less pus, and having its origin, remote or recent, in a tooth which has suffered inflammation within its structures or about its surroundings, is more common to the lower than to the upper jaw; its most frequent situation being opposite to the body of the bone, near to the lower border, and about one inch anterior to the posterior angle.

We account for its greater occurrence in this position as being due to the circumstance that the internal fibrous covering to the buccinator muscle comes nearer to the necks of the teeth at its attachment in the lower than it does at its attachment in the upper jaw, and that matter is consequently much more frequently in the former case formed below its attachment; but, whatever the explanation, we are sure it will be admitted that we meet with at least ten or twenty cases in this position to one in any other.

In private practice the condition is much less frequently met with, and when met with its results are much less



important than in the case of the class of patients usually attended to at hospitals, who, as a rule, apply much later for advice. In the earliest stages, *i.e.*, when we meet with it occurring after the recent opening of an abscess, and where the patient is healthy, the removal of the cause, say a necrosed tooth or root, will generally be speedily followed, and without other treatment, by a cessation of discharge and the healing up of the sinus. Where it has long existed it is otherwise, and especially with the debilitated, and the removal of a tooth, the primary cause, has often little effect upon either the amount of the discharge, or the unsightly mass of purple coloured, irregularly nodulated, hypertrophied tissue—in the condition of “fretfulness,” “weakness,” “low vitality,” “want of tenacity of composition,” &c. It is our opinion that the severer varieties are more commonly met with in the male sex, and this we attribute to the fact that the hair about the neighbourhood of the orifice or orifices, or even the more developed hair follicles, are sources of irritation and complication; it may, however, be due to the circumstance that females are more careful in respect to personal appearance, and are therefore earlier applicants for relief.

With regard to treatment, we should, without hesitation, remove any teeth or roots which are in our opinion the active producers of the trouble; but in the case of teeth which, though the remote cause from past attacks of inflammation, may be sound, firm, free from tenderness and useful, we may well pause before so doing, as perhaps little benefit will accrue therefrom.

In the next place, and especially where the removal of teeth or roots is uncalled for, or unavailing, we must direct our attention to the *thickenings, adhesions, or other lowly organized products of inflammation long past*. These we can seldom deal with, as in the case of ordinary sinus: we cannot from their position freely open them up, and then cause them to granulate from below upwards. Not only do we find them matted and strongly adherent to the surface of the maxilla, but we may infer also that involved

with them are both periosteal and endosteal tissues. In looking at some of the worst and most intractable cases, the temptation has arisen to make a clean sweep, and boldly remove all the degraded tissues which caused them; if such were effectually done, a speedy cure would, doubtless, follow, but the loss of so much substance must involve an amount of contraction that would probably seriously affect the features of that side.

The mere slitting up of the sinus or sinuses is seldom attended with benefit, and even the application of strong nitric acid, and the galvanic cautery has failed in our hands: we must attack those "weak," "lowly-vitalized," "fretful" tissues, in a manner that will materially alter their character, or, perhaps, even effect their removal.

In treating Dental fistula, especially the most obstinate cases, we have found no remedy so efficacious, as a preparation, the properties of which are powerfully antiseptic and stimulating. We believe we are indebted to our American *confrères* for having first called our attention to the value of a mixture of iodine and creosote in the treatment of chronic periodontitis. In thus employing it care is taken, by proper manipulation, that the compound finds access as far as possible to the diseased periodontium.

In the case of Dental fistula, we have employed it on small tents of cotton introduced into the sinuses, and there left, to be discharged by suppuration or granulation; the process being repeated weekly. By this means we have hoped to so alter the character of the degraded tissues, that they may become no longer a source of irritation, and the determination of a low form of inflammation; but we have hoped for more, viz., that by the continued action of the antiseptic we may bring these tissues into a condition comparable with carbolized "catgut" ligature, whilst by the influence of the stimulant we may encourage the active living elements of the surrounding tissues to enter into, absorb, and finally replace them. If such change be possible, then may we look for a certain cure for these and analogous cases, as with it we shall be able to eliminate

from the body these residues of former inflammations, which are so prone to suppuration, and which constitute the "residual abscesses," as described by Sir James Paget.

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### Development of the Teeth.

*(Continued from page 152.)*

AFTER expressing their disbelief in the existence of the sheaths of Neumann, M.M. Legros and Magitot proceed to describe the arrangement and terminations of the dentinal fibrils. The description does not differ very much from that of Tomes; they allude to a series of dilatations or swellings of the fibrils anastomosing with each other, found at the periphery of the dentine, which, they state, bear all the characteristics of veritable cells, and ought not to be any longer regarded in the light of anastomosing lacunæ. The dentine is not traversed by hollow tubes with proper walls and fluid contents; in a section of a tooth softened in dilute acids, the fibril is the same size and possesses the same characters as have been assigned to the tube, coagulation or staining of the fibril fails to render apparent any wall; all these points the authors insist upon, but it might be pointed out that the only difference between this view and the received theory in England is, that what in the one case is called a fibril with a soft axial portion, in the other case is called a tube with a soft fibril inside it.

Referring to the formation of secondary dentine, the authors speak of it as identical in nature, though slower and confined to a limited space, with the persistent growth of certain teeth in the lower animals.

The formation of dentine when normal and undisturbed is regular and homogeneous, but when any cause, constitutional or local, affects the follicle, the dentine formation is modified and the dentine is produced, not regularly but in round or ovoid masses of variable size (0mm, 004—0mm, 03) called globules of dentine (calcospherites); these spheroidal bodies by their necessarily incomplete relation with each other produce "interglobular spaces." They

are not normal but an "*anomaly of nutrition*;" we cannot help thinking that this statement requires confirmation; the experiments upon which it is based, namely the artificial production of these appearances by irritating developing follicles only proves that the *spaces* are due to an abnormal condition.

In summarising their remarks on the development of dentine, the authors employ an excellent simile to explain their view, viz., that of a branch of a tree plunged into a petrifying well, the ramification of the tree representing the prolongation of the cells round which the calcareous matter is deposited.

### § 2. *Development of the Enamel.*

MM. Legros and Magitot regard the enamel as the product of transudation from the epithelial cells of the enamel organ, which cells they propose to call *adamantoblasts*.

It is formed on the deeper surface of the layer of cells, each cell being provided with a plateau. It is upon the internal surface of this plateau or basement membrane that the enamel is seen to transude. The cells being polygonal from mutual pressure transmit this peculiarity of form to the prism of enamel. The enamel organ as its work proceeds becomes itself absorbed, first its stellate pulp becomes thinner till it disappears, and this absorption as soon as enough enamel is formed, extends to the adamantoblast cells themselves; the plateau may persist as Naysmith's membrane, or it may be absorbed and Naysmith's membrane be rudimentary cement (Owen, Tomes). This latter opinion is strengthened by the fact that there is no such layer in animals possessing a coronal cement.

### § 3. *Development of Cement.*

The ossification of bones is in some cases a process of substitution, as in intracartilaginous ossification, in others one of encroachment, as in intramembranous ossification; both varieties are found in the cement. In those cases where there is a distinct cement organ, as in the molars of



herbivores the process is intracartilaginous; where there is no coronal and comparatively little radicular cement, the ossification is intramembranous, the wall of the follicle being the seat of the process, the outer part of which wall becomes afterwards the periosteum. Concerning the details of the process, MM. Legros and Magitot state that their opinions have not undergone any change or modification since M. Magitot published his views upon the subject in conjunction with M. Robin, in 1879.

In the molar of a perissodactyle herbivore softened by acids, and cut so as to preserve the tissues in situ, a fibro-cartilaginous cement organ may be seen surrounding the gum which is the seat of a process not in any material point differing from any other intra-cartilaginous ossification, and resulting in an osseous tissue containing osteoblasts regularly grouped round vascular canals, the most internal portion being least rich in cells, and that portion which is contiguous with the enamel, forming a clear transparent zone. In the case of those teeth in which, as in man, the apes, &c., there is no coronal cement, the cement organ is represented by the wall of the follicle. This follicle wall, which is destined to form the alveolar-dental periosteum, undergoes intramembranous ossification on its under surface, not differing from that of the parietal bone. The authors are strongly opposed to any theory of a connection between the cement and dentine other than simple contiguity, they do not believe that there is any communication between the contents of the lacunæ and canaliculi and the fibrils.

Finally, the authors state that the periosteum is formed from the outer portion of the follicle wall. The value of such researches as these are inestimable, and we only regret that limited space and press of other matter prevents us from translating the article entire, and compels us to limit ourselves to the foregoing abstract.

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## International Medical Congress, 1881.

## PROGRAMME OF GENERAL ARRANGEMENTS.

AN Informal Reception will take place at the Royal College of Physicians, Pall Mall East, on Tuesday afternoon, August 2nd, from 3 to 6 p.m., at which the Executive and Reception Committees will meet the members of the Congress.

The Opening Meeting of the Congress will be held in St. James's Great Hall, on Wednesday, August 3rd, at 11 a.m. Entrance in Regent Street and Piccadilly.

The other General Meetings will be held in the theatre of the University of London; entrance in Burlington Gardens. The Sections will meet in the places assigned to them; Section XII. (Diseases of the Teeth) being quartered in the rooms of the Linnæan Society, Burlington House; entrance from Piccadilly.

The offices of the Reception Committee are in the College of Physicians, Pall Mall East, at the north-west corner of Trafalgar Square. This Committee will meet daily during the week, at 3 p.m., in the Censor's room at the College.

The offices of the Reception Committee at the College of Physicians will be open for the registration of members on and after Monday, July 18th. Members are requested to call as soon as possible after their arrival in London, to enter their names and addresses in the register; they will then be supplied with programmes of business and tickets for membership, excursions, and entertainments. Every possible information will be given as to the prices and situation of convenient hotels and lodgings.

Members wishing to take part in any of the excursions, or to visit any of the public or private places of interest, open on the occasion, must enter their names and addresses in the proper book, at the College of Physicians, at the earliest opportunity, in order that the necessary arrangements may be made.

## DAILY PROGRAMME.

*Tuesday, August 2nd.*—10 a.m. to 6 p.m. Registration of

Members and issue of tickets, at the offices of the Reception Committee, in the Royal College of Physicians, Pall Mall East; 3 to 6 p.m. Reception of the Members of the Congress by the Executive and Reception Committees, at the Royal College of Physicians.

*Wednesday, August 3rd.*—8 a.m. to 6 p.m. Registration of members and issue of tickets, at the Royal College of Physicians; 11 a.m. First General Meeting at St. James's Great Hall, Address of Welcome by the Chairman of the Executive Committee, Secretary-General's report, election of officers and constitution of the Congress, election of honorary presidents of the Congress, election of honorary presidents of the Sections, *Inaugural Address by the President of the Congress*; 3 p.m. Meeting of the Sections, constitution of the Sections, and other business; 9 p.m. *Conversazione* at South Kensington Museum (entrance in Exhibition Road), given by the English Members of the Congress to the foreign members.

*Thursday, August 4th.*—10 a.m. to 1 p.m., Sectional Meeting; 1.30 to 3.30 p.m., visits to hospitals—Guy's, London, St. George's, St. Mary's, St. Thomas's, Westminster; the medical officers and lecturers will be prepared to receive such members of the Congress as may desire to visit these hospitals and to inspect their schools and museums; 2 to 3.30 p.m., additional meeting time for the Sections; 4 to 5.30 p.m., second general meeting, in the Theatre of the University of London, address by Professor Maurice Raynaud, of Paris: "*Le Scepticisme en Médecine au temps passé et au temps présent*"; 6.30 p.m., banquet given to a certain number of the members of the Congress by the Lord Mayor of London at the Mansion House.

*Friday August 5th.*—10 a.m. to 1 p.m., Sectional meetings; 1.30 to 3.30 p.m., visits to hospitals—Bethlehem, Charing Cross, King's College, Middlesex, St. Bartholomew's, University College; the medical officers and lecturers will be prepared to receive such members of the Congress as may desire to visit these hospitals, and to

inspect their schools and museums; 2 to 3.30 p.m., additional meeting time for the Sections; 4 to 5.30 p.m., third general meeting, in the Theatre of the University of London, address by Dr. Billings, of Washington, U.S., on "*Our Medical Literature*;" 9 p.m., *Conversazione* at the Royal College of Surgeons, Lincoln's Inn Fields.

*Saturday, August 6th.*—10 a.m. to 1 p.m., Sectional meetings; 4 to 7 p.m., reception of a certain number of the members at Kew Gardens by Sir J. D. Hooker; 4 to 7 p.m., a garden party will be given by Mr. and Mrs. Spencer Wells at Golders Hill, Hampstead; 6.30 p.m., the United Hospitals' Club will entertain a party of the members of the Congress at dinner at the "Star and Garter," Richmond Hill.

*Sunday, August 7th.*—10 a.m., a service will be held in Westminster Abbey, sermon by the Very Rev. Dean Stanley, D.D., F.R.S.; 3.15 p.m., a service will be held in St. Paul's Cathedral, sermon by the Rev. Canon Liddon, D.D. D.C.L.; 2 p.m., the Royal Botanic Society's gardens, and the gardens of the Zoological Society, Regent's Park, will be open free to members on this, and on every day of the week, on presentation of their tickets. The Royal gardens at Kew may be visited on Sunday from 9 a.m. till sunset, and Hampton Court Palace and gardens from 2 p.m. till sunset.

*Monday, August 8th.*—10 a.m. to 1 p.m., Sectional Meetings; 2-3.30 p.m., additional meeting time for Sections; 4-5.30 p.m. fourth general meeting in the theatre of the University of London, address by Prof. Volkmann, of Halle; 6.30 p.m., dinner given to a certain number of the foreign members of the Congress by the Worshipful Master and Wardens of the Society of Apothecaries in their hall at Blackfriars; 9 p.m., Soiree in the Albert Hall, and the International Medical and Sanitary Exhibition, South Kensington.

*Tuesday, August 9th.*—10 a.m. to 1 p.m., Sectional Meetings; 2 to 3 p.m., fifth general meeting in the theatre of the University of London, address by Prof. Huxley, F.R.S.,



D.C.L., London, on "*The Connection of the Biological Sciences with Medicine*;" 3 p.m., concluding meeting of the Congress.

After the concluding meeting, the members, accompanied by their friends, will proceed to Victoria Station (London, Chatham and Dover High Level), where special trains will be in waiting at four o'clock to convey them to the Crystal Palace. After a visit to the palace and grounds, an Informal Dinner will take place in the concert room about seven o'clock. At dusk the fountains will play during a display of fireworks, which may be viewed by members of the Congress from the Queen's corridor.

The address of the Hon. Secretary General is 13, Harley Street, Cavendish Square; the number was incorrectly printed in our last issue.

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### The Dental Registration Fund.

As the application of this fund may ere long become a matter of special interest to the profession, we make no apology for reproducing the following noteworthy conversation which took place after Dr. Quain's Financial statement, made before the Medical Council, on April the 29th of this year. This statement contained the following tables and explanatory remarks referring to the Dental receipts and expenditure of the Council:—

*Dental Finance.*—Reference to Table (D) shows the receipts and expenditure of the Dental Registration Fund for the year ending January 1st, 1881. It will be seen that there remained then to the account of the Dental Fund a sum of £9000 of New Three per Cent. stock, and in the bank £824 8s. 11d., making a total of £9824 8s. 11d.; but it must also be noticed that, while the total income of this fund during the year, from all sources, amounted only to £616 7s. 3d., the expenditure amounted to £1808 10s. 7d., leaving a deficiency of £1192 4s. 4d., to be met out of invested capital.

By request from the Committee, the Registrar has prepared the following roughly approximate estimate of the probable future annual income and expenditure of the Dental Registration Fund.

TABLE D.—Returns to both Houses of Parliament of Receipts and Expenditure of the Dental Registration Fund of the General Medical Council, for the year ending January 1, 1881, made pursuant to Section XXXIII. of the Dentists Act (1878).

RECEIPTS.				EXPENDITURE.			
	£	s.	d.	£	s.	d.	
BALANCE from 1879 . . . . .	10,668	13	4	GENERAL COUNCIL'S FEES AND OTHER EXPENSES . . . . .	262	2	6
Amount (deducted) to be repaid to ENGLISH BRANCH COUNCIL . . . . .	179	12	0	EXECUTIVE COMMITTEE'S FEES AND OTHER EXPENSES . . . . .	196	17	6
REGISTRATION FEES:				GENERAL EXPENSES (House Expenses, Salaries, &c.) . . . . .	491	6	3
65 Registration Fees at £5 each . . . . .	325	0	0	DENTAL COMMITTEE'S FEES AND OTHER EXPENSES . . . . .	121	16	0
63 Registration Fees at 5s. each . . . . .	15	15	0	PRINTING . . . . .	83	18	1
SALE OF REGISTERS for 1879 . . . . .				LAW EXPENSES . . . . .	598	10	8
DIVIDENDS:				MISCELLANEOUS EXPENSES:—			
One year's Dividend on £9281 15s. 3d. . . . .				Auditors' Fees . . . . .	15	15	0
of New Three per Cents. (less In- come Tax) . . . . .	272	1	5	Additional Clerical and other Assistance . . . . .	38	4	7
				BALANCES.			
				Cost of £9281 15s. 3d. of	9000	0	0
				New Three per Cents . . . . .	824	8	11
				Amount in Bank on January 1, 1881 . . . . .	9824	8	11
				Amount (to be deducted) to be repaid to ENGLISH BRANCH COUNCIL . . . . .	527	10	11
					9296	18	0
					£11,105	8	7

Audited and found correct,  
QUILTER, BALL, CROSBIE, GLEGG, & WELTON.  
January 11, 1881.

Signed { RICHARD QUAIN, M.D. } *Treasurers.*  
HENRY A. PITMAN, M.D. }  
W. J. C. MILLER, B.A. } *Registrar.*

*Estimated Income.*

Dividends .....	£274	0	0
Fees (at present rate) .....	250	0	0
Total Income.....	524	0	0
Deficiency .....	883	0	0
	£1407	0	0

*Estimated Expenditure*

Proportion of General Council's fees .....	£510	0	0
Fees for Executive and Dental Committees .....	117	0	0
Proportion of general expenses .....	500	0	0
Printing .....	150	6	0
Law expenses.....	50	0	0
Miscellaneous.....	80	0	0
	£1407	0	0

This table shows a probable future excess of expenditure over income of about £880, which will have to be met by drafts on the invested capital.

RICHARD QUAIN, M.D., Chairman.

April 27th, 1881.

“Professor TURNER called the attention of the Council to the fact that according to the estimated annual revenue and expenditure there was a deficiency of £800, which was to be met out of the invested funds. If that annual deficiency continued, in about ten years the Dental Fund would be bankrupt.

Dr. QUAIN said the Committee anticipated in the future an increase in the funds to be derived from the fees.

Mr. TURNER thought in view of the drain on the capital fund invested in the name of the Dentists it became a matter for serious consideration whether something could not be done to diminish the annual expenditure, and suggested that that point should be referred to the Finance Committee for renewed consideration.

Dr. QUAIN said the legal expenses had been very heavy up to the present, but they were expected to be a great deal less in the future. The Medical Council was an expensive luxury, and if the Dentists had accepted the advice given them, and taken the Duke of Richmond's Board, all this expense would have been saved. However, he hoped next year that the expenditure would be very little indeed over the income.”

We trust that the hopes of Dr. Quain may be more than realized, and that the “rough estimate” of Dental Registration Expenses, prepared by the Registrar, may yet be modified in some

points favourably to the Dental Fund, and that the anxiety of unfriendly members of any Committee to procure at the expense of the Dentists' Registration Fund legal "opinions," and proceedings adverse to the successful operation of the Dentists Act in respect to registration, may for the future be subject to the control of the Council at large.

## Dental Hospital of London. HOSPITAL REPORTS.

CASE II. *Dresser*: MR. A. ALEX. MATTHEWS.—Probable Transference of Sensation by Extraction of Molar Tooth.

John R., æt. 30, gardener, presented himself at the Dental Hospital, in July, 1880, for treatment of a first right upper molar. The tooth was a dead one, and was being treated prior to filling: However, a portion of a Donaldson's nerve bristle was broken in the palatine root, and, as considerable pain ensued, it was decided to extract it. This was done, the whole of the tooth being removed. The following day the patient returned, complaining of pain in the socket, and also of pain in the testicle. The mouth looked satisfactory and the testicles were normal. He was advised to return the next day to see one of the Surgeons. However, other advice was sought, but not followed, and the pain in the socket and testicles continuing at intervals, the patient went to the National Hospital for Paralysis, where nux vomica was prescribed and he was advised to go to the sea-side, which he did for six weeks. On his return to London he came to the Hospital and saw Mr. Coleman, when he stated that the pain, both in the socket and testicle had gradually ceased while at Hastings. And up till now, January, 1881, he has had no return of pain.

Ten years ago the patient had had gonorrhœa.

## Obituary. ISAAC SHEFFIELD.

It is with deep regret that we have to record the sudden death of Isaac Sheffield, D.D.S., at his residence in Stratford Place, W., in the sixty-sixth year of his age. He had been suffering from impaired health for some time past, but hardly to such an extent as to lead his friends, or himself, indeed, to apprehend that the fatal result was imminent. He was a native of Cumberland, and



thither his remains were conveyed. He rests with those he loved, in the quiet churchyard at Dalston, a village near Carlisle. He had the good fortune to inherit, together with a sound physical organization, much of the mental constitution and vigour of his father, who by the force of great natural ability, as was manifested by some valuable mechanical inventions, recommended himself to the notice and esteem of several distinguished men of science, including Dr. Isaac Milner, Dean of Carlisle, and the late Lord Brougham. At the usual age the subject of our notice was placed under the tuition of an eminent mathematician, Mr. Richard Taylor, and from him he doubtless derived much of that taste for, and sympathy with, mathematical and physical subjects, that afforded him so much pleasure in the leisure hours of his subsequent life. His brother, Mr. Thomas Sheffield, had been practising with considerable success for some years in Exeter, and it was thought desirable that his younger brother should join him there, with a view to the study of Dental Surgery. This he accordingly did about the year 1835, and during the five years that he remained with him, he evinced an aptitude for his professional work, that afforded good promise of the success that he afterwards achieved on a larger field.

On leaving Exeter he settled in London, and there his evident ability and thorough knowledge of his profession, after a brief interval, won a large recognition, despite a quiet and unobtrusive character that otherwise might have seemed to render success in the career he had chosen somewhat doubtful. In soft gold plugging few operators in dental surgery excelled him, whilst his talents as a dental mechanist were far above the standard of his confrères. In 1873 he was elected President of the Odontological Society, and in delivering his inaugural address at the opening of the session—a duty from which he shrank with a diffidence that was peculiarly his own—he manifested a quiet power of thought in his review of the history of Surgical and Mechanical Dentistry, combined with so kindly a wish to impart a higher and broader tone to the subject of an ordinary address, as to carry with him, we believe, the sympathies of his audience.

We cannot conclude this brief notice of a departed friend without bearing our sincere testimony to his moral worth, and the unswerving integrity that marked his professional career; he died as he had lived, in the simple exercise of that Christian faith and hope which had adorned the lives of those whom he best loved.

## WILLIAM DONALD NAPIER.

We regret also to have to record the sudden death of the above, who occupied a distinguished and influential position in his profession.

Mr. William Donald Napier was the son of a gentleman connected with extensive engineering works, still carried on by a member of his family in Belvidere Road, Lambeth. We are not acquainted with the reasons which induced him to devote himself to a calling he never spoke of in flattering terms, but, after serving a pupilage under Mr. Edwin Saunders, he became a partner with Mr. Thompson, of 22, George Street, Hanover Square. He subsequently completed a course of medical study at St. George's Hospital, and passed the Royal College of Surgeons in 1858. His contributions to his special branch were not very numerous, but amongst the most important of them may be mentioned:—A method of filling teeth by the insertion of vulcanite plugs retained by cements, a process which has not found favour or adoption; the invention of an ingenious saliva-pump, which, we think, in obtaining a patent for, he committed an error; but in regard to his so doing for his india-rubber tooth-brush, his most successful invention, he received, we consider, undue censure, that appliance being decidedly without the category of surgical instrument and appliances. One of his latest devices was the union of two nitrous oxide bottles, so that in case of one becoming exhausted, the other could be brought into immediate use. Had he mixed more with his fellow practitioners, he would have discovered that this arrangement had already been in use for several years.

Mr. Napier's invention in regard to surgery will probably outlive those he introduced connected with his immediate speciality. It was his sad misfortune to suffer, and most severely, for several years from vesical calculi, and it was whilst lying on the bed of sickness that his thoughts were directed to means for alleviating this distressing malady, the outcome of which was an ingenious appliance constructed for securing and removing small calculi after they had passed from the ureters, or when formed in the bladder, or the fragments of larger ones the results of lithotrity.

Mr. Napier held opinions which differed considerably from those entertained by the great majority of his fellow practitioners; thus he was an undisguised opponent to instruction in Dentistry as a speciality, and even intimated that but for certain personal friend-

ships his influence would have been exerted for the discontinuance of the Dental Hospital and School, whilst the Dental Diploma he characterised "as a most unfortunate and mischievous institution." But in thus differing from the majority of his *confrères*, his opponents could always feel that they had to deal with one who, if outspoken, was thoroughly honest in his opinions and who never temporised in regard to them. He was the actual founder of the Association of Surgeons Practising Dental Surgery, but though he laboured most arduously in getting that institution established he persistently refused to be nominated to fill its highest offices. He also belonged to several medical societies, and was for some years an active Fellow and Office-Bearer of the Medical Society of London.

In private life Mr. Napier was a man of considerable taste; he possessed a fine collection of paintings, china, and antiques, but his chief aim centred in wood carving, of which he possessed a large amount, some of his specimens being of considerable value. Of these latter, several were to be seen at the recent *conversazione* at St. Bartholomew's, which took place the day following his sudden and premature death. As may be gathered, his house in George Street was an object well worthy of a visit, and it was certainly so to the friends he hospitably entertained there.

If the subject of our memoir did not represent our opinions as we could have desired, we nevertheless readily admit, that in his person, bearing, and general surroundings the dignity of our speciality was fully maintained.

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### Correspondence.

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We do not hold ourselves responsible for the views expressed by our Correspondents.

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THE REPLANTATION OF TEETH. A CASE IN PRACTICE,  
TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

GENTLEMEN,—My article in the December number of your journal, under the above heading, was intended as a bait to draw out discussion on this subject, believing that discussion on any given topic tends to elucidate facts from which we may arrive at correct conclusions thereon. In that it has been partially successful, viz., in drawing out individual opinions.

I was somewhat amused at the haste with which L.D.S. Eng. &c. rushed into the arena and took up his pen on the offensive.

In the first place he seems to have had a difficulty in comprehending my "not very clearly expressed article." I am sorry for that, as I endeavoured to make my phraseology so simple and so plain, "that a wayfaring man . . . need not err therein."

He then goes on to question the wisdom of the course I adopted, in scraping the fang of its periosteum, and presupposes that I must be unaware of the theory, "that union takes place again between the ruptured particles of the membrane."

He admits that the membrane becomes ruptured! That is, that part will come away with the tooth, and part will be left adhering to the alveolar process. Then what becomes of the alveolar portion of that membrane?

I contend that there is no reason why the alveolar periosteum should not undergo a reparative process and again unite to the tooth after its replacement, "Seeing that if a piece of periosteum be stripped off a bone, it will unite again if placed in contact with the bone if left at rest," and under favourable conditions.

The fact of the sac of an alveolar abscess becoming attached to the apex of the tooth, from which the periosteum had been scraped previous to replanting, is sufficient evidence to my mind that such a reparative process and re-attachment does take place, although I was astonished to learn after its extraction, what was its condition when that operation was performed, as I expected its expulsion from the gum as a foreign body. I had simply adopted the course as an experiment, having performed replantation in other cases without removing the peridental membrane, each case resulting in failure after a short lapse of time.

I am, however, inclined to think that I did the right thing, whatever may be the opinion of "L.D.S. Eng." as I have, since reading his letter, looked through the Journals, seeking for records of cases of replantation; and if he will refer to Vol. V. of the MONTHLY REVIEW OF DENTAL SURGERY, p. 128, he will find the remarks of Herr Rabatz on this subject. He says:—

"In the thirty-eight remaining cases periostitis existed, the condition of the pulp is of secondary importance. If diseased, it was scraped, but in all cases the tooth was stuffed before being replaced. The periosteum was scraped off in twenty of these cases, and the points of the roots filed off slightly, while in the remain-



ing eighteen cases the diseased membrane was left attached. In the *former* set *seventeen* were successful, of the *latter* only *three*."

This, I think, speaks for itself.

I pass by the supercilious enquiry of "L.D.S. Eng." as to whether I have ever heard of Dentine of Repair, by stating that I have before me at this moment a rare specimen of a lower molar tooth, in which that process has been in active operation, the crown having been worn down nearly to the cervical margin.

Mr. WOODHOUSE (in the February<sup>1</sup> number of the JOURNAL) has, I think, fully answered L.D.S. Eng., on his theory of the development of dentine of repair, with the same rapidity that the mechanical abrasion of the crown takes place, *versus*—the opening up of the pulp canal by attrition.

I would add that on looking over some old plaster casts a fortnight ago, I found the identical model of the case in point, taken some time before the operation of replantation was performed, and in which the biting surface of the tooth in question is worn down to a V-shaped depression; the dentine of repair being altogether *insufficient* to protect the pulp from injury, resulting eventually in the loss of the tooth.

Apologising for this lengthy communication, and thanking you for inserting my last,

I am, Gentlemen, yours respectfully,

Drake Street, Rochdale.

J. RENSHAW, L.D.S.I.

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### THE EXPURGATION OF THE DENTAL REGISTER.

TO THE EDITORS OF "THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIRS,—If, as seems certain, the General Medical Council persists in its resolution to take no further action towards cleansing the Register of the names of the crowd of unqualified men wrongly admitted to its pages, it appears now to be acknowledged that the British Dental Association is quite competent to take the matter into its own hands, and to bring the question to an issue through the Law Courts. In spite of the unfortunate experience of the Representative Board, to which, in speaking of my letter, you refer in your leader of last month, I must adhere to my opinion that if the importance of the subject be made clear to the profession, the necessary funds will be forthcoming. It is impossible to exaggerate the good which would certainly arise from such a trial, whether the final judgment were favourable or the reverse.

But is it not more than probable that the Court would decide in favour of the Association? It is quite certain and evident that the legislature never intended that some thousands of incompetent, not to say ignorant, men should be allowed to force themselves upon the public as legally qualified practitioners; and seeing the increasing tendency of the Judges to interpret laws rather according to their true spirit than their strict letter, there need not be much doubt that judgment would be given in harmony with common sense and justice. But supposing the verdict to be finally adverse, we should still have achieved one very valuable object which we have in view. One of the main things which we wish to do is to educate the general newspaper press and the public as to the exact composition of the heterogenous mass of practitioners now indiscriminately designated the Dental Profession; and nothing could be so well calculated to effect this result as an *exposé* such as that to which the trial would assuredly give rise. After that, perhaps part of the general public would still remain ignorant as to the exact state of dental affairs, but we might be certain that much enlightenment would be spread abroad, and no confusion would be found remaining in the minds of acute newspaper editors, many or most of whom are now lamentably uninformed on the subject.

If by any means—and I leave the devising of these to you, Sirs,—a fund can be started to carry out the object to which I have referred, I am willing to subscribe five guineas at once, and to put my name to a guarantee fund for the amount of five guineas more; and I shall be indeed astonished if there prove to be any difficulty in finding a hundred or hundreds more, who have the welfare of our profession at heart, to come forward with the support needed to carry our cause to a successful termination.

Your obedient servant,

M.R.C.S.

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TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIR,—In your very full report of the discussion in the Medical Council on "the admission of additional qualifications on the Dentists' Register," I am credited with making two speeches, one of which I made, and the other I did not make. My real speech, the first of the two, page 229, was in favour of Dr. Storrar's motion, for which I gave my vote. The speech wrongly put to my name

(page 231) is against Dr. Storrar's motion. I believe that the same error was made in one of the medical journals.

I am, Sir, yours faithfully,

38, Cookridge Street, Leeds.

T. PRIDGIN TEALE.

May 23rd, 1881.

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### Royal College of Surgeons of England.

THE next examination for the Dental Diploma of the Royal College of Surgeons of England will take place as follows:—

Friday, June 24th, Written Examination.

Monday, „ 27th, Practical „

Tuesday, „ 28th, *Vivá Voce* „

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### Appointment.

CHARLES TOMES, Esq., F.R.S., as Dental Examiner on the Dental Board of the Royal College of Surgeons of England.

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### Dental Hospital of London Medical School.

THE annual distribution of Prizes will take place at Willis's Rooms, on the 30th of June, at 6 p.m. Professor Owen will preside.

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### Report of the Annual Meeting of the Midland Counties Branch.

THE present issue of the JOURNAL contains the remaining portion of the complete report of the recent Annual Meeting of the Midland Branch of the British Dental Association. Those who desire to possess this report in a separate form can obtain it by sending a penny stamp and full address to the Hon. Secretary, Dr. W. H. WAITE, 10, Oxford Street, Liverpool.

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### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.P.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A  
MONTHLY REVIEW OF DENTAL SURGERY.

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## ASSOCIATION NOTICES.

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THE ANNUAL GENERAL MEETING of the Association for business purposes will be held on Monday, the 1st of August, at Eleven o'clock.

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The Meeting for the Reading and Discussion of Papers will open at Two o'clock.

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Members wishing to read Papers or make Casual Communications, are requested to communicate with the Honorary Secretary, at 12, George Street, Hanover Square, London, W.

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All the above Meetings will be held at 40, Leicester Square.

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### UNPAID SUBSCRIPTIONS.

Members who have not paid their Subscriptions for the current year are requested to forward them without delay to the Treasurer at 36, Sackville Street, Piccadilly, W.

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### MEETING OF THE REPRESENTATIVE BOARD.

Since the issue of the Journal of the 15th inst., it has transpired that the Annual Meeting of the West of England Dental Association is fixed for Saturday the 30th of July. On this ground it has been deemed expedient to alter the time of meeting of the Representative Board from Saturday, July the 30th, as announced in the Journal, to Monday, August 1st, at 10 o'clock a.m.

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### NOMINATION OF CANDIDATES FOR SEATS ON THE REPRESENTATIVE BOARD.

Regarding the Nomination of Candidates for a seat on the Representative Board, the attention of Members is especially called to Bye-Law 18, wherein it is specified that every Candidate must be nominated by six Members of the Association.

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### EXTRA NUMBER OF THIS JOURNAL.

To meet the press of matter which may be expected to arise from the occurrence in close sequence of the Meeting of the Western Counties Dental Association, of the Annual General Meeting of the Association, and of the International Medical Congress, it has been determined to issue an extra number of this Journal, on Tuesday, August 2nd, which will contain as complete a report as possible of the proceedings of what we trust we may then be entitled to term our Western Counties Branch and also the final business arrangements of the Dental Section of the Medical Congress.

JAMES SMITH TURNER,

June 24th, 1881.

Hon. Sec. B.D.A.

THE JOURNAL  
OF THE  
BRITISH DENTAL ASSOCIATION  
A  
*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. VII.

JULY, 1881.

VOL. II.

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THE approach of the Medical Congress is rapidly becoming the all-absorbing topic of interest to the Medical world, both here and abroad. The recognition and welcome which our special branch of Surgery has received from the promoters of the Congress is one of many facts connected with the progress of our profession to be regarded with satisfaction.

Almost simultaneous with this extension of the right hand of fellowship from the rest of the profession, we notice another gratifying compliment to one of our leading practitioners, namely the election of the President of Section XII. to the Presidential chair of the Metropolitan Counties Branch of the British Medical Association.

Things are indeed changed for the better, and the change is no doubt due to the consistently conscientious manner in which the English Dentists have devoted their energies to the welfare of those who consult them, and the advancement of the status of the profession. We are beginning to reap the harvest for which for the last quarter of a century we and our predecessors have been toiling, and it is a pleasant reflection that those of our seniors who have been conspicuous in doing the work in the face of

wearying delays and disappointments innumerable, should have the reward of seeing their labours crowned with success, and their services acknowledged.

In the approaching Medical meeting we look forward to the gratification of entertaining a large number of our brethren from abroad, distinguished in every branch of Dental Science. Europe and America will send some of their most eminent representatives, to all of whom it will be our pleasing duty to accord a hearty and cordial English welcome.

We shall have ample opportunities for an interchange of ideas upon all points connected with Dentistry, for both giving and receiving suggestions, and shall doubtless discover that it is not the special prerogative of any one climate to produce skilful practitioners in our speciality.

It cannot but be a matter of interest to our foreign brethren to investigate the working of our hospitals and schools, and compare them with their own, to the mutual benefit of both.

Our papers promise from their titles to be interesting; and as many valuable additions have of late years been made to the Surgery and Pathology as well as to the more abstruse branches of Odontology, we may anticipate a week that will long be remembered in the annals of Dentistry.

We cannot close our article without offering to Mr. Saunders our hearty congratulations upon his election as President of the Metropolitan Counties Branch of the British Medical Association. It shows that the general profession regards him with the same esteem as do those with whom he has been for so many years associated in special practice, and in private friendship, and renders the Congress year of 1881 more than ever auspicious. He, as well as many others of his contemporaries, must remember

that since they first began to work together to attain the ends they have now fairly accomplished, they have had to bear the brunt of many hard knocks, many failures, and a vast deal of disappointment. Things were anything but *couleur de rose* in the earlier times, but opposition has been encountered and overthrown, incredulity persuaded, obstacles of all sorts surmounted, and it must be very gratifying to those to whose perseverance and energy we owe all this, to find that they have not laboured in vain.

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### Expurgation of the Dentists' Register.

“The main question, as to the power under the Act to purify and keep pure the *Register*, depends on the interpretation of Section 6 of the Dentists' Act. As long, therefore, as the matter is allowed to rest supported in its present position by the force of one legal opinion, it is impossible to view the case with satisfaction; and we shall advance the dignity of the profession, and, at the same time, proceed in no unkindly spirit to the Medical Council, if we urge upon the dental profession to combine with its leading members in obtaining an opinion from counsel, as high in the legal profession as Sir F. Herschell, upon the whole merits of the case. Armed with such an opinion, if favourable to our view, the cases should be carried into a court of law, and the matter finally set at rest by a judicial decision of the courts. In this, and this way only, can we see any practical way of solving a question which is of great importance to the dental profession. It would, indeed, be a tame ending to a spirited and unselfish movement, upon the part of the leading dentists, whose conduct and motives throughout have been approved by their profession and the public, to allow the Dentists' Act, the charter of their new professional life, to fail in its application and be shorn of one of its chief objects, from a want of determination to sift the question thoroughly, and to bring to the certainty of a judicial decision what is now only a high legal opinion.”

These are the concluding sentences of the able review of the Dentists' Act, which appeared in our last issue. We heartily agree with these views, but we regret being obliged to repeat that action of the Association in the matter is at present crippled for lack of funds. With only the present number of Members enrolled, the Board would



hardly be justified in incurring even the preliminary expenses involved in obtaining those high legal opinions, without which further proceedings are impossible; while the sum necessary to carry a case through the Courts—if this duty should devolve upon us—would be far beyond our present resources. The only way out of the difficulty seems to be to adopt the suggestion of “M.R.C.S.” in our June number, and to start a special fund for our purpose. We do not, however, propose to call for donations at once. We think it may be sufficient if Members will put their names to a Guarantee Fund, upon which calls can be made as needed. The initiatory steps cannot possibly absorb many scores of pounds, but to conduct litigation to an issue in the Higher Courts may call for the expenditure of several hundreds. We are, however, justified in believing that it seems probable the Medical Council may, when the question is further advanced, be induced to take upon itself a part if not the whole responsibility and expense; but of this we cannot be sure, and the fund which we desire to form will make us prepared for the worst.

It is with reluctance we make this appeal. It certainly would not be necessary if the Association numbered as many Members as it ought fairly to count upon possessing. We feel that the burthen will again fall upon that minority of our brethren who have all made, already, at least some personal sacrifice for the common good of their profession. It is somewhat disheartening to find that so many remain apathetic—willing to share the benefits of reform, but not caring to contribute in any way towards its achievement. We have, at least, this consolation—that our most arduous tasks in the consummation of Dental reform are almost at an end, and that when this question of the cleansing of the Register is finally closed, the resources of the Association will suffice to promote the working of the Dentists Act,

without the necessity of any future appeal, such as now we are obliged to put forth.

Below will be found a list of those who have already subscribed to the Guarantee Fund.

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Legal Expenses Guarantee Fund.

	£	s.	d.
H. J. Barrett .. .. .	10	10	0
F. J. Bennett .. .. .	5	5	0
Storer Bennett .. .. .	5	5	0
F. Canton .. .. .	5	5	0
Alfred Coleman .. .. .	10	10	0
Oakley Coles .. .. .	10	10	0
Wm. F. Forsyth .. .. .	10	10	0
George Gregson .. .. .	10	10	0
George & W. F. Henry .. .. .	10	10	0
S. J. Hutchinson .. .. .	10	10	0
G. A. Ibbetson .. .. .	10	10	0
T. H. Mummery .. .. .	10	10	0
T. R. Mummery .. .. .	10	10	0
James Parkinson .. .. .	10	10	0
Lawrence Read .. .. .	10	10	0
Thos. A. Rogers .. .. .	10	10	0
S. L. Rymer .. .. .	10	10	0
Edwin Saunders .. .. .	10	10	0
Henry Sewill .. .. .	10	10	0
Joseph Steele .. .. .	10	10	0
J. Stocken.. .. .	10	10	0
C. S. Tomes .. .. .	10	10	0
John Tomes .. .. .	10	10	0
J. Smith Turner .. .. .	10	10	0
F. K. and A. Underwood.. .. .	10	10	0
Thos. Underwood.. .. .	10	10	0
Chas. Vasey .. .. .	10	10	0
Joseph Walker .. .. .	10	10	0
G. Wallis .. .. .	10	10	0
F. Weiss .. .. .	10	10	0
Charters White .. .. .	10	10	0
A. J. Woodhouse .. .. .	10	10	0
W. H. Woodhouse .. .. .	10	10	0

### Western Counties Dental Association.

THE third Annual Meeting of this Association will be held on Saturday, July 30th, 1881, in the Lecture Hall of the Medical School, Bristol, Park Street (behind the Bristol Museum), which is kindly offered by the Faculty for that occasion.

*President*—Thomas Cooke Parson, Esq., M.R.C.S., L.D.S.E., Atherstone House, White Ladies Road, Clifton; *Vice-Presidents*, G. T. Parkinson, Esq., L.D.S.E., and C. Spence Bate, Esq., F.R.S., L.D.S.E.

At 11 a.m. The Council will meet.

At 12 a.m. The General Meeting of Members and friends for the business of the Association.

At 2 p.m. Adjournment for Luncheon.

At 3 p.m. The President will deliver an Address, after which Papers will be read and discussions opened on the following subjects:—

*The Physiology and Pathology of Dental Caries.*—By C. A. Hayman, Esq., L.D.S.E., Bristol.

*Continuous Gum Work.*—By A. B. Verrier, Esq., L.D.S.I., Weymouth.

*Injecting Process of Celluloid.*—By J. H. Gartrell, Esq., Penzance.

*Treatment of Disease in the Dentine.*—By W. V. Moore, Esq., L.D.S.E., Plymouth.

*Cohesive and Non-Cohesive Gold Filling.*—By the President, Thomas Cooke Parson, Esq.

*The System of Professional Fees.*—By R. Rogers, Esq., L.D.S.I., Cheltenham.

At 6.30 p.m. The Members will dine at the Clifton Down Hotel. Charge 7s. 6d. Please inform the Secretary if you will remain to the Dinner.

Annual subscriptions to be paid to the Treasurer, J. T. BROWNE-MASON, Esq., L.D.S.E.

*Hon. Secretaries*, A. SMITH, Maitland House, 67, White Ladies Road, Redland, Clifton, and W. V. Moore, 15, Princess Square, Plymouth.

Notices have been given according to Bye-Law No. 20 of the following Resolutions:—

C. Spence Bate, Esq., of Plymouth, will move:—

“That this Society shall henceforth be a Branch of the

British Dental Association, and shall be denominated 'The Western Branch of the British Dental Association,' that the fee to those who are Members' of the British shall be 5s. instead of 10s. 6d. to the Western Counties Dental Association, and that the Officers of the British and Midland Associations shall be (ex-officio) Members of this Association."

R. Rogers, Esq., of Cheltenham, will move:—

"That Gloucestershire and Hereford be included with this Association."

A. Smith, Esq., will propose—

"That the next Annual Meeting be held at Cheltenham, 1882."

New Members can be admitted by early application to the Local Secretary, A. Smith, Esq., Maitland House, 67, White Ladies Road, Redland, Clifton.

W. V. MOORE, Esq.,

15, Princess Square, Plymouth.

Hon. Secretary.

## International Medical Congress.

The following is a rough sketch of the business to be transacted by Section XII. A carefully arranged programme will be drawn up and issued shortly before the opening of the Congress.

### SUBJECT I.

#### *Replantation and Transplantation of Teeth.*

"L'Etat actuel de la greffe dentaire," by Dr. MAGITOT, Paris.

"Paper on Replantation," illustrated with specimens, by Dr. FINLEY THOMPSON, London.

Dr. Taft, Cincinnati, Mr. Coleman, and Mr. Percy May will take part in the discussion.

### SUBJECT II.

#### *Premature Wasting of the Alveoli and its Amenability to Treatment.*

Dr. J. Walker, London, will open a discussion on this subject. Dr. St. G. Elliott, Dr. Coffin, Dr. Arkövy, and Mr. C. S. Tomes will take part.

### SUBJECT III.

#### *The share taken by Septic Agencies in causing Diseases of the Teeth.*

"An Investigation into the Effects of Organisms upon the Teeth



and Alveolar Portion of the Jaws," by Messrs. ARTHUR UNDERWOOD and W. T. MILLER.

"On Alveolar Abscess," by Mr. S. DEAN, Chicago.

#### SUBJECT IV.

##### *Mercurial and Syphilitic Teeth.*

There is no paper offered on this subject, but Mr. Jonathan Hutchinson, Mr. Moon, Mr. C. S. Tomes and others will take part in a discussion, which will be held jointly with Section VII., probably on the afternoon of Friday, August 5th.

##### *Irregularities of the Teeth.*

"Erosion of the Teeth," by Mr. A. COLEMAN.

"On the Causes of Irregularities in the Position of Teeth," by Dr. GUNNING, New York.

"The Origin and Treatment of certain forms of Irregularities of the Teeth and Jaws," by Mr. OAKLEY COLES.

"Paper illustrative of Carabelli's Mordex Proximus and its relation to Prognathia Ethnologica and Meyer's Crania Progenæa," by Dr. JOSEF ISZLAI, Budapest.

"Civilization in its Relation to the Increasing Degeneracy of Human Teeth," by Dr. NORMAN KINGSLEY, N.Y.

"Questions to be propounded for wide circulation, with a view to gathering useful statistics," by Mr. J. R. MUMMERY.

"The Generalized Treatment of certain Irregularities," illustrated by models, apparatus, &c., by Mr. WALTER H. COFFIN.

#### PAPERS NOT CLASSIFIED.

"On Dental Surgery in the Army," by Mr. GADDES.

"On Some Peculiarities of Gold Foil," by Dr. St. G. ELLIOTT.

"On the Evidences of Reflex Action in Relation to Constitutional Disturbance induced by Interrupted Secondary Dentition," by Mr. D. CORBETT, Dublin.

"Remarks on the Administration of Anæsthetics at the Dental Hospital of London, from the year 1868 up to the present time," by Mr. A. COLEMAN.

"The Restoration of 'Contour,' the Only Way to keep Permanently Separate the Margins of Enamel on Proximate Surfaces, and Prevent Recurrence of Decay," by Dr. MARSHALL WEBB, Lancaster, U.S.A.

"A Communication on Antral Disease," by Dr. Taft, Cincinnati.

"Investigations into the Conditions of Development of Secondary Dentine," by Dr. ARKÖVY, Budapest.

"Experiments on the Action of Agents used for the Devitalisation of the Dental Pulp," by Dr. ARKÖVY, Budapest.

"On the Pathology of some Diseases of the Jaws of Dental Origin," by Mr. ISIDOR LYONS.

"On the Reproduction of Bone, with Especial Reference to the Variable Portions of the Maxillary Bone," by Dr. ATKINSON, N.Y.

"Des Limites Therapeutiques dans le Traitement de la Carie Dentaire," by Dr. MAGITOT, Paris.

"On the Study of Dental Surgery and the means thereto," by Mr. J. TOMES.

V. Clinical Demonstrations of Certain Operations, the use of new instruments, &c., will be given at the Dental Hospital, 40, Leicester Square, by—

Dr. MARSHALL WEBB, Lancaster, U.S.A.

Mr. A. WOODHOUSE, London.

Dr. BONWILL, Philadelphia.

Dr. ST. G. ELLIOTT, London.

Dr. FINLEY THOMPSON, London.

INSTRUMENTS TO BE EXHIBITED BY DR. ST. G. ELLIOTT, LONDON.

Improved Power's engine mallet.

New Saliva ejector.

New form of Bunsen burner.

Improved hand mallet.

Vulcanite and corundum disks, &c.

By DR. BONWILL, PHILADELPHIA.

A Dental engine modified for Surgical operations.

An electric mallet.

An engine mallet.

By DR. TELSCHOW, BERLIN.

A nitrous oxyde apparatus.

A steam swager and a celluloid injector.

National Dental Hospital,

149, GREAT PORTLAND STREET, W.

WE are requested to state that this Hospital will be open for inspection from 9 a.m. till 7 p.m. daily, during the Session of the International Medical Congress. Members are cordially invited to visit the institution.]

# On Specialism; and on the influence of Medical Science on Modern Civilization.

*An Address delivered at the Annual Meeting of the Metropolitan Counties' Branch of the British Medical Association, July 12th, 1881, by the President, EDWIN SAUNDERS, Esq., F.R.C.S.*

GENTLEMEN,—Probably on no single occasion in my life have the graphic words of our great national poet come upon me in fuller force, “as when some well-graced actor leaves the scene, the eyes of men are idly bent on him who enters,” than now, when called upon to fill the place so worthily occupied by the distinguished physician who has just spoken his kindly farewell. And it may well be that for one who has misgivings as to his power of interesting such an audience as the present, the absence of enthusiasm, and the languid interest indicated by “the eyes idly bent,” may be more acceptable than glances, more ardent, but probably also more critical.

Suffer me again to express my sincere thanks for the honour you have conferred upon me in electing me your President, and also those of my confrères, who regard it with satisfaction, as drawing still closer the bonds of union between our speciality and the great body of the Medical Profession. It is not my intention so far to abuse the trust you have so kindly reposed in me, as to make this the occasion of opening up the politics of the profession; much less of making *ex parte* statements respecting recent legislative proceedings and the General Medical Council. Nevertheless, a simple, fair, and plain statement of what has, and what has not, been accomplished, will not, I trust, be thought inadmissible, or wholly devoid of interest.

It is useless to disguise the fact that the splitting up of Medical and Surgical practice into departments, or specialities, has always been deprecated and discouraged by those corporate bodies which charge themselves with the maintenance of the educational standard, the honour, and the public reputation, of the profession. And a strong case must be made out for a departure from this rule, before such a proposition can have any chance of receiving the

seal of official sanction. And the reasons for this jealousy of the disintegration of the profession are not far to seek. First amongst these is probably the apprehension that the educational standard might thereby be lowered; the limitation of the area in that wondrous microcosm, the human body, which falls under his charge, having a tendency to set bounds to biological research, and general scientific attainment, on the part of the specialist. Moreover, if the department of practice is one which involves, in its successful prosecution, large and constant demands of time, as well as physical fatigue, it must inevitably result that his mental vision will gradually become myopic, that he will begin to find himself trammelled by the routine of his daily work, and indisposed by his exhausted energies, from disporting himself in "those fresh fields and pastures new," which were the charm and the dream of his student days. In fact, the specialist is not long in waking up to the consciousness that he has, by devoting himself to one particular kind of practice, set limits to his intellectual horizon, and done much to crush out any poetical aspirations which may have consciously been lying dormant in his soul. He has, indeed, become like those unfortunate birds, kept for the exercise and display of man's skill, whose wings, being clipped, become thereby disqualified for that higher range of flight, which by natural structure and instinct they are otherwise fitted to enjoy. Another reason against specialism (though this is rather subjective, and is liable to the modifications of temperament and mental idiosyncrasy), is that, being habitually deferred to in his own special department, he is in danger of forming an exaggerated estimate of his value and importance in the social scale. To counteract any tendency towards this latter infirmity, there is no readier or more certain means than to become enrolled in associations such as that with which it is our privilege to be connected, where, measuring swords in friendly conflict, we may get to know where our real strength or weakness may lie. But after all has been said that can be urged, and all objections and arguments to



the contrary, notwithstanding, it is extremely improbable that special practice can ever be set aside. It is a tree of great age, having its roots in a remote antiquity, and still, in these modern days of the nineteenth century, pushing forth branches of undeniable vigour and beauty. In fact, it must be regarded as one of those natural products, which it is equally futile and impolitic to ignore, and which persists in asserting itself as the legitimate outcome of the scientific growth and advanced civilization of the age. How constantly do those who are most strenuous in their denunciations of specialism, resort in their own case, or in that of those in whom they are nearly interested, to those who (themselves sternly repudiating the name of specialist) are looked upon as the highest authority as regards the particular ailment in question. Do we not all in similar circumstances act on one unvarying principle? In lung disease does not the name of A. rise to our lips? For heart disease do we not go in quest of B., in epilepsy for C., in Bright's disease or gout or jaundice, is it not our first impulse to enquire whose opinion is of greatest value, as having had the largest experience and paid the closest attention to the symptoms and treatment of these cases respectively? And if this be so in medicine, much more is it the case with all that large class of ailments in which manipulative treatment and dexterity are necessary for their relief or cure. Here again we find theory and practice in opposition, for though we are bound to regard every qualified surgeon as duly equipped and accomplished for the performance of any operation whatsoever, who, amongst us, I would ask, would not rather have a voice in the selection of the operator in a case of cataract, or in passing the catheter? For there are hands and hands, some with fingers so well formed and endowed with so exquisite a sensibility as to be entitled to be called intelligent fingers, which seem to bring the inert material instrument they grasp into direct communication with the sensorium, and some so irresponsive to the will, and altogether so intrac-

able as to debar the possessor from doing justice to his own attainments. And permit me to add that knowing, as I do, what, as Dr. Johnson might have said, the potentiality of pain is in a carious tooth, I should most respectfully but most unhesitatingly decline the services of the most accomplished Member of the Royal College of Surgeons who had had no special training in the treatment of those organs.

And this avowal strikes the keynote of the present position of Dental Surgery, and furnishes the occasion of an apology or a statement of the *raison d'être* of a special diploma and a distinct register for that branch of surgery. In what has been advanced with respect to the prevalence of special practice, and in the cases which have been adduced with the view of shewing that it is inherent in the complex civilization of the present advanced state of society; no such sharp line of demarcation has been presented as to require a distinct curriculum or a separate examination. And for this simple and obvious reason that the structures concerned are for the most part homologous, subject to the same physiological laws, amenable to similar treatment, and possessing considerable reparative or even reproductive power, the soft parts being abundantly supplied with vessels and nerves, and the bones being protected by membrane or integument enjoying vitality of a high order. But the practitioner of Dental Surgery, having charge of organs possessed of great density, and encased in an envelope of crystalline hardness, of so low an organisation as to be at the mercy of chemical action or of mechanical lesion, and being extruded and exposed except at their articulating processes or roots, is under the necessity of employing a totally different class of instruments with quite other modes of operative procedure. This is not the time or place to open up the much vexed question of the nature and causes of decay of the teeth; for our present purpose, it will be sufficient to regard it as the result of chemical action, inasmuch as the invaluable operation known by the name of stopping, proceeds upon

that assumption. A small fissure is observed in the grinding surface or other part of an otherwise healthy tooth, arising, it may be, from imperfect apposition of the enamel fibres, sufficient to allow of the infiltration of the secretions of the mouth with more or less debris of food. It is also not improbable that the subjacent dentine is imperfect, in which case the mischief will make rapid progress, the conditions favourable to the destruction of tissue by chemical action being present in the small external opening of the cavity, and the difficulty of removing the putrescent matters within. If this is allowed to go on unchecked, the walls of the pulp cavity being weakened or destroyed on the side of the lesion, the pulp becomes exposed; and it is fortunate if at this stage the most excruciating pain to which human nature is liable is not experienced. It is the business of the Dental Surgeon to prevent this, and to restore the damaged organ to health and efficiency; but, however diligent he may have been at lecture, and however observant in the wards of the hospital, his surgical knowledge will stand him in little stead, and he must seek elsewhere than in the *Armamentarium Chirurgicum* for the appliances proper to the case before him. He will first proceed to enlarge by a drill or strong cutting instrument the external opening, so that no enamel fibres shall be left which are unsupported by sound dentine, and he will then proceed to cut away the carious bone with small delicate chisels, straight or bent at various angles according to the position of the cavity. He will then by careful packing of gold or plastic material insert a plug so perfectly, that while possessing uniform density, it shall exclude moisture from filtering in at any point between itself and the parietes of the cavity. And where these conditions are fulfilled, a perfect plug inserted into sound dentine, and with no roughnesses or concavities for the retention of putrescent organic matter, the destructive process is arrested for an indefinite time. It is here that the necessity for special training makes itself evident. The carious matter must be carefully removed, without

recklessly penetrating the *cavitas pulpæ*, and the cavity must receive such a form as to retain the plug, which again must be so deftly inserted, that it shall offer perfect occlusion without flaw and without undue pressure on the sensitive structure within. It will easily be understood that there are various subsidiary matters, which want of time and the fear of exhausting your patience forbid me to touch upon, connected with the insertion of the plug or stopping; such as maintaining a dry state of the cavity and of the several portions of gold which have to be welded together, a good light in which to operate, and a chair so constructed as to place the patient in the required position without discomfort. Neither may we stop to enquire how it is that the living dentine can be made so tolerant of the close impaction of inorganic matter; or how it is that the different rates of expansion under varying temperature in the tooth-bone and the metallic plug, to say nothing of the high conducting power of the latter as regards heat and cold, does not lead to disastrous consequences. Suffice it to say, that notwithstanding these contingences, a very large measure of success is obtained by the operation known as stopping teeth, by which, as is probably within the experience of almost all here present, they are not only prevented from becoming sources of agonizing and prostrating pain, but are made valuable aids to digestion, to health, and to the prolongation of life. Nor is it necessary to take account of complications arising from abnormal sensibility, whether of the dentine or of the exposed pulp, or of the minute attention to details of apparently minor importance, but not less essential to a successful result, to show that Dental Surgery can only be taught and practised as a special branch, and by technical professors. The case adduced in illustration, is one of everyday occurrence, and whether regarded in reference to the manipulative skill required, or the time occupied, which may vary from half an hour to five or six, or even more hours, makes it quite incompatible with ordinary surgical practice.



Concurrently with a rapid and brilliant advance in the science and art of our speciality, due to a large extent, to a wave of progress which reached this country from the other side of the Atlantic, there arose an increasing demand for, and appreciation of, its services on the part of the public. And hence the necessity for an organization of the profession forced itself upon the attention of those who might be supposed to feel an interest in its welfare. On such an important matter it was hardly to be expected that unanimity would prevail, and accordingly it soon became evident that there were two competing schemes, by one of which the Surgical diploma was regarded as imperative and sufficient, while it was repudiated by the other as being of little worth and relevance.

What seemed certain was that neither alternative was adapted to meet the exigencies of the case; for although, the possession of the diploma of the Royal College of Surgeons was felt to ensure a good social and educational standing, and so far to be advantageous, it could not be regarded as giving evidence of that special knowledge which has been shewn to be necessary, inasmuch as the subject found no place in the examinations. On the other hand, to sever the connexion of the speciality with general surgery, by the establishment of a College of Dentists, was regarded as a derogation, neither necessary nor desirable, from the position which it had hitherto enjoyed. Under these circumstances, it was resolved to memorialise the Royal College of Surgeons on the subject, and to ask for a special diploma or licence to be granted on examination by a conjoint board consisting of half surgeons and half specialists, and for such modification of the prescribed course of study as should eliminate what was valueless and should substitute what would best meet the requirements of the case; so that in the result the educational standard should not be so much lowered as varied. And it was found, practically, that the points of contact were so much more numerous than those of divergence in the lines of study for the diploma for general surgery and for

the licentiateship of dental surgery respectively, that a yearly increasing number of dental students has set the good example of possessing themselves of both qualifications. Nevertheless, it will still be found both convenient and advantageous that the surgical treatment of diseases of the maxillæ or of the soft structures in connection with the oral cavity, shall be confided to the practised hands of the pure surgeon. To borrow an illustration from the sister art of music, it would not be reasonable to expect that he who stirs our soul with the sonorous thunders of the organ should equally be able to hold us spell-bound with the "linked sweetness long drawn out" of the violin. An acquaintance with the science and theory of music must be the basis of proficiency in both cases, but the attainment of high excellence in either can only be the reward of close and daily devotion to the selected one. So in the case in question, a knowledge of anatomy, physiology, and pathology is necessary as a common and firm ground in consultation, and as an aid in diagnosis in the protean forms of facial neuralgia. It is to the practised eye of the specialist that the insidious caries reveals itself before it becomes patent to the ordinary observer, and thus is the patient spared much suffering and much useless constitutional treatment. Or he may be able to refer the attack to exostosis, to malformation, to malposition, arrest of development, or retarded eruption of any particular tooth, with equally good effect. Such knowledge is also of conspicuous advantage in cases of hæmorrhage after extraction, whether traumatic or due to hæmorrhagic diathesis, in the management of anæsthetics, or in the more modern operation of replantation, in which—strictly following the lines of antiseptic treatment—teeth in a state of partial necrosis, and giving rise to suppuration, are removed, and after excision of the necrosed parts, are re-inserted in their alveoli.

Great, however, as was the advantage of the institution of the licentiateship of dental surgery, it was soon found to be an incomplete work, inasmuch as the powers con-

ferred by it were of an enabling but not of a compelling kind. For the first time, indeed, in the history of the profession, a special institution was provided for the treatment of the diseases of the teeth on a sufficiently comprehensive scale; and also a school of dental surgery, where instruction was given by lectures and by clinical teaching, in accordance with a curriculum determined upon by the dental examining board. But although advantage was taken of these facilities to a large extent by those who were anxious to practise their profession with credit to themselves and advantage to the public, yet in the absence of a register there was still no check to the intrusion of the unprincipled and the uninstructed. This has now been happily accomplished by the Dentists Act of 1878, introduced by Sir John Lubbock, which forbids, under penalties, the use of the word Dentist, or any other title, by any one, implying that he is qualified to practise dental surgery, unless his name appears on the Register. And although, in its extreme solicitude for vested interests, the legislature made it possible for a large number who had little or no ground to claim a place on the Register to enrol themselves prior to August 1st, 1879, when the Act should take effect; yet the fact stands, that only those who by a well-considered course of study, and by examination, shall have proved themselves duly qualified to practise the speciality, can henceforth be permitted to enter its ranks. This is what has been accomplished. Legislative sanction has been obtained for a scheme not directed to give prominence to the educated and qualified few, but to raise the whole body of the profession; not to accentuate the distinctive character of the speciality, but indissolubly to unite it to the great surgical body, through the examining board of the Royal College of Surgeons. And if, by reason of legal technicalities and definitions, not always in harmony with the common understanding, the Register must still be encumbered with a large number of ineligible and undesirable names, consolation must be sought for what has not been accomplished, in the reflection that time

which tries all things, will surely, though it may be slowly, redress this wrong.

Such is the present position of a branch of surgery which, within living memory, has received a very marked and rapid development, and which is destined to play no unimportant rôle in the cycle of medical science, which has counted among its foremost practitioners men who would have won distinction in any calling: Fox, Bell, Cartwright, Nasmyth, Rogers, Tomes, and many others, who were distinguished for their energy and skill in operations, or who have enriched the literature of the speciality by monographs, or by treatises of a scientific and practical character. Nor must it be forgotten that in its scientific aspect it did not fail to engage the great and original mind of John Hunter; and coming down to later times, that it possesses a cherished treasure in the Odontography of Professor Owen. Nor, lastly, must we ever fail to remember with feelings of the deepest gratitude that it was in the congenial soil of this speciality that that flower of sweetest perfume and of loveliest form, Anæsthesia, arose to soothe and bless the sense and heart of man.

But enough, and I fear you will say more than enough, of specialism. For the few remaining moments at my disposal, I will venture to permit myself a wider flight, and endeavour to recount some of those unrecognised benefits, which lie outside the healing art, and the legitimate functions of the medical practitioner, for which society, in this latter half of the nineteenth century, is indebted to medical science. Historians and divines are sometimes fond of speculating on the indirect influence of Christianity on modern civilisation, and on what might have been, had things turned out differently in certain crises of a nation's history. A similar procedure with respect to what has been done in the way of diffusion of sound sanitary knowledge, by which sweetness and light are brought to our homes, better hygienic conditions made prevalent, and the sum of human happiness indefinitely increased, would reveal a startling amount of indebtedness



on the part of society to the medical profession. Is it credible that the sanitary condition of our metropolis, with its unparalleled density of population, could have been so satisfactory as it is, if the medical profession, with a wise prescience, had not taken the initiative in divers matters connected with the public health? To their efforts is it not due that intra-mural interments are abolished, and that the festering overcrowded city church-yard is replaced by the pleasant, flower-decked God's acre on the country hill-side? And that in place of the reeking fever-bearing cesspool, London has a comprehensive system of drainage,—a prodigious work which only awaits its ventilating shafts, carried up into the higher regions of the atmosphere to render it complete. To the same disinterested source do we not owe what has been done in preventing the contamination of our atmosphere (in which direction, however, much still remains to be done) by freeing it from the fuliginous and deleterious fumes of chemical works and factories, injurious alike to the beauty of our buildings and to animal and vegetable life? Without this intervention on the part of medical science, would the Report of the Registrar General have been of so congratulatory a character as regards increasing longevity, an enhanced power of enjoying life, a yearly diminishing death rate, and a higher average standard of health? While the feats of daring and endurance in the way of Alpine climbing, swimming, walking, or athletic exercises, which throw into the shade the most heroic achievements of the past, furnish a sufficient answer to the sinister vaticinations of the pessimist, as to the growing degeneracy of the race. Again, to whom do we owe the universal adoption of the daily bath and the inculcation of the importance of a clean skin as a prime factor in physical health? or a recognition of the necessity of ventilation alike in living or sleeping rooms, and especially in schools, hospitals, and sick chambers? Who, again, is found in the front rank doing battle for vaccination, and thus saving fanatics from themselves? To whom are we indebted for warnings

as to the insidious, unsuspected and pestilential ways of sewer gas, and the means of saving us from their deadly influence? Who, undismayed by the bigotry and prejudice, and the obloquy they incur, nevertheless persist in doing all that an enlightened humanity dictates to preserve our youth from the lethal and ineradicable taint of syphilis? To whom do we turn for measures to secure purity in our food, and for an abundant and untainted water supply? While for better and more varied diet for breakfasts and dinners, with improved methods in the preparation of food, are we not debtors to our own "doctor in the kitchen?" Nor would it be easy to overestimate the share which the exhaustive enquiries into the relative economic value of various kinds of food and stimulants have had in bringing about the temperance and moderation of modern dining customs. Indeed the increasingly important part which diet plays in the treatment of functional derangement of important organs, confers upon it a sort of therapeutic value. Again, who will refuse to acknowledge the amelioration in medical ministrations in the way of tasteless and concentrated preparations of the modern pharmacopœia, as compared with the native undisguised nauseousness and bulk of drugs in use in former days, to say nothing of drastic measures and heroic doses?

Of the wonderful transformation in the ancillary art of nursing it would be presumptuous to speak after the able treatment which the subject received last year at the hands of my predecessor in this chair. But I will pause to pay a passing tribute to that noble-hearted lady and true woman, who, first made nursing an art and a cultus and, as pioneer in that good work, went forth with a chosen band into whose bosoms she had infused somewhat of her own humane enthusiasm, to soothe and tend the sick and wounded soldier in the Crimean campaign. Herself turning aside from the allurements of society and the blandishments of the London season, where she was well fitted to shine, she gave to the shattered inmate of the

military hospital, the tender care, the unwearied watchfulness and the animating sympathy which a woman, and a woman only, knows so well how to bestow. Kindling hope wherever hope was possible, and where human aid was powerless to save, receiving and transmitting the parting message of love to those dear ones in a distant and desolated home. Here was no epicene monstrosity seeking to usurp and over-ride man's natural position and prerogative, but an example of quiet, unobtrusive earnest work and self-abnegation, which will ever be associated with the undying name of Florence Nightingale.

Gratitude has been said to mean a lively expectation of favours to come, and in some such spirit I do not shrink from asking on the part of society that you will add to its obligations by demanding some further reforms which seem especially urgent. That every express train shall run at least one carriage which shall give access to a lavatory. You will be met by a flat refusal, but what boon due to your advocacy, was ever granted without this initial stage of negotiation. You will demand it in the interests of your patients, and of all delicate and highly organised natures to whom the hurry, the excitement, and the exposure of wayside stations must be fraught with danger and discomfort. A very slight acquaintance with the subject will convince the most sceptical that the difficulties resolve themselves into a question of expense, as it is simply necessary to make one of the seats movable so as to allow a passage through the various divisions of the carriage. Society also begs your good offices in introducing a better and more frequent cleaning of our streets, more especially those which have asphalte or wood paving. In these there being no earth to mix with the droppings from the horses, whereby the manure is to a certain extent diluted and deodorised, it becomes desiccated and pulverised, and is blown into the eyes and air passages in all its repulsive and disgusting pungency to the great detriment of health and comfort, or in wet weather renders the road dangerous. The even surface and the absence of

detritus of granite and sand facilitate the cleaning process which may be easily done by the sweeping machine, or by hand labour as in the City of London, and by receptacle stations or posts. And this might also be done at a very small, or even at no expense, by being systematically collected, and distributed to the market gardens, where it would be in great demand. Yet another boon Society seeks at your hand, that its public buildings, churches, theatres, and concert rooms, should receive fresh supplies of air warmed in winter by passing over hot water pipes, and cooled in summer by being driven over troughs or tanks of freezing mixture. This also is perfectly easy of accomplishment, if in the interests of health it be urged upon the attention of the architect by the Medical profession. By this simple arrangement, a modification or development of the improved ventilation of the present day, the headaches and malaise at present inseparable from crowded gatherings might be at least mitigated if not altogether removed; and pending this improvement, you are besought to put your veto on the objectionable practice on the part of caretakers of such buildings of closing the doors as soon as the audience shall have left, so that the effete atmosphere is preserved for the poisoning of the blood of the next occupants. And lastly Society asks the authority of your powerful voice to remedy the deleterious atmosphere of the underground railway. The time may come when steam power may be replaced by electricity, but this may be a doubtful improvement. The true remedy is the substitution of compressed air which, when it has done its office in driving the engine, regains its normal density, and provides a respirable atmosphere in the tunnel. Thus not only would the contamination of the air by the combustion necessary to generate the steam be avoided, but a continuous supply of pure air be injected into this otherwise invaluable artery of communication. Air compressed into cylinders by an air-compressing engine worked by the tide at the Charing Cross bridge, by means of a water-wheel, would make the cost little, if at all, great than the



present pestiferous arrangement. Gentlemen, I may have exhausted your patience, as, indeed, I fear may be the case, but I shall not have exhausted the list of good works of disinterested practical philanthropy of incalculable value in human progress and welfare which Society has received and is receiving at the hands of our noble profession; but which earn little or no recognition other than the sweet incense of an approving conscience. The opportunity of doing what in us lies to help forward the great work of human progress is restricted within very narrow limits. Life has been defined as a sentence of death with, at the best, some few score years of respite; and, grim as the definition seems, who can dispute its essential truth? But shall this consideration paralyse our efforts, and extinguish our aspirations? Rather should it quicken our good impulses, and nerve our arm, knowing how soon the night comes, and remembering that

“We are such stuff  
As dreams are made of, and our little life  
Is rounded with a sleep.”

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### Dental Hospital of London.

THE annual Public Distribution of Prizes to the successful students of the Dental Hospital School took place at Willis' Rooms, on Thursday, the 30th ult.; Professor OWEN, F.R.S., in the Chair.

The Dean, Mr. T. F. K. UNDERWOOD, opened the proceedings by reading his report of the progress of the School during the past year.

He was glad to be able to state that the entries during the past winter and summer sessions had been nearly equal to the best year the school had ever known, and as the quality and quantity of the relief given must depend largely upon the number of students who were available to administer it, the prosperity of the school was of the utmost importance for the successful working of the Hospital.

Their students had been very successful at the examinations of the Royal College of Surgeons; at those just concluded all the twelve men who had presented themselves had passed. The

exertions of the Medical Tutors had, no doubt, largely contributed to this exceptionally good pass-list. During the year they had lost the valuable services of Mr. Storer Bennett in this capacity, but had retained him as Assistant Surgeon, whilst Mr. Morton Smale, formerly a distinguished pupil of the Hospital, had been appointed to fill his place.

The Demonstrator, Mr. Claude Rogers, had proved himself so valuable that it had been decided to appoint a second, and Mr. John Ackery, also a distinguished pupil and late house-surgeon, had accepted the post.

In the place of Mr. Makins (late lecturer on Metallurgy), and of Mr. Turner (late Lecturer on Mechanical Dentistry), they had been fortunate enough to secure the services of Mr. Louis and Dr. Walker. The former gentleman was well known in the chemical world, and the latter needed no introduction, having been one of the first officers of the Hospital at its foundation.

In the surgical staff they had to regret the resignations of Mr. Bartlett and of Mr. Ashley Gibbings, both old students of the Hospital. In their places Messrs. Storer Bennett and Arthur Underwood had been appointed.

The staff had great pleasure in acknowledging the valuable help they had received from the house- and assistant house-surgeons. Mr. Bradshaw, the late, and Mr. Blackmore, the present house-surgeon, together with Mr. Rees Price and the present assistant house-surgeon, Mr. Curle, deserved their sincere and hearty thanks for the excellent and efficient manner in which they had carried on the work of the Hospital.

Mr. UNDERWOOD then proceeded to refer to the list of Prize-winners, especially calling attention to the distinction achieved by Mr. W. Hern, who had, in addition to the prizes he had won at that Hospital both last year and this, also gained several at Middlesex Hospital. He (Mr. Underwood) thought the list gave evidence of work well done; it showed that the school was keeping up its old prestige, and that the prosecution of the scientific study of their branch of surgery kept pace with the relief from suffering which it was their privilege and duty to afford.

Professor Owen then delivered Prizes to the following successful students:—

*The Saunders Scholarship* to Mr. W. Hern, Scholar for 1881.

*Mr. Buchanan's Prize* to Mr. J. S. Amorre, for Essay on "The Causes, Symptoms, and Treatment of Neuralgia in connection with Diseases of the Teeth."

*Mechanical Dentistry*:—Mr. W. Hern—1st Prize; Messrs. J. O. Butcher and W. Harrison—2nd Prize; Mr. J. M. Ackland, 1st Hon. Certificate.

*Metallurgy*:—Mr. J. J. Andrew—1st Prize; Mr. S. C. Buckland—2nd Prize; Mr. J. O. Butcher—1st Hon. Certificate.

*Dental Surgery and Pathology*:—Mr. W. Hern—1st Prize; Mr. W. A. Turner—2nd Prize; Mr. A. Alex. Matthews—1st Hon. Certificate; Mr. S. C. Buckland—2nd Hon. Certificate.

*Dental Anatomy and Physiology*:—Mr. W. Hern—1st Prize; Mr. A. Alex. Matthews—2nd Prize; Mr. S. C. Buckland—1st Hon. Certificate; Mr. W. Harrison—2nd Hon. Certificate; Mr. J. M. Ackland—3rd Hon. Certificate.

*Prize for Operative Dental Surgery* to Mr. Curle.

*Student's Society Prize*, 1880, awarded for Paper on "The Dentition of the Mollusca," to Mr. J. S. Amorre.

The distribution being concluded, Professor OWEN delivered the following address:—

MR. DEAN and GENTLEMEN,—The dental system of organs, in relation to which your hospital and special school exist, having been the subject of some of my biological labours, I accepted with pleasure the invitation to perform the agreeable duty which I have just discharged, and I felt honoured by the request of your President and Council in relation thereto. When at work in the great School of Comparative Anatomy, at Paris, more than half a century ago, the prevalent notion of the nature of teeth was that they were mere secreted products. De Blainville, who commonly differed from Cuvier, agreed with him in this, and even expressed more decidedly that low view of their nature and structure: with him teeth had no organic connection with the pulp or part secreting them.

The microscopic demonstrations of the organisation of the chief dental constituent recorded by Leeuwenhoek in the 140th of the publications issued in 1670 by our Royal Society, the predecessors of our present "Philosophical Transactions," was neglected and forgotten. The con-

firmation, by Purkinje in 1835, of the tubular structure of the substance now known as "dentine," and the modifications of dentinal structures made known by Retzius in 1837, and since extended by the exact and persevering labours of your accomplished associates, Messrs. Tomes, father and son, have placed the parts of the human frame which are your special subjects in the category of structures, in relation to which every advance in their anatomical and physiological history becomes, as in every other system of organs, the foundation of successful practice—of those conclusions as to the various maladies you are called upon to relieve or cure, known in other departments of the healing science as "diagnosis" and "prognosis." And there will be no surer sign that dentistry has risen to the status of a science than the fulfilment of your predictions and concomitant practice in cases of disease and abnormality of the teeth.

The direction of my dental studies having been, partly, to the diagnosis of extinct animals, I am bound to testify to how large a measure of help and light I have been indebted to the study, especially microscopical, of fossil teeth; how richly they demonstrate the structures through which the vital fluid percolates the dense tissues, both in plasmigerous channels too minute to admit the coloured blood-discs, and in those of a size yielding as rich a display of vascular, blood-carrying organisation as in the bones themselves.

Palæontology has, moreover, brought to light evidences of dental armatures in a vertebrate class hitherto held to be definitely characterised by toothless jaws. True it is that some birds present tooth-like serrations of the corneous sheaths of the beak; and, in the typical *Raptores*, the maxillary prominence, with the sharp piercing sheath it supports, is called in falconry the "tooth" of the hawk. In the petrified skull of an eocene bird, from Sheppey, I found a series of the bony supports of such weapons as truly merited the name of teeth: and better evidences of teeth implanted in sockets have been demon-



strated in the extinct birds of an older geological period, discovered by Professor Marsh, in North America.

Thus no great natural group of vertebrates refuses to supply you with modifications of the dental system. Nor need you deem a sacrifice of business-hours, or adventurous journeys far a-field, essential to the acquisition of subjects enabling you to make original additions to odontological knowledge.

These few sections showing the organisation of teeth in some old and low forms of extinct life, I have been led to bring as evidence of what may be discovered without the need of exploring wilds in which the scalp of the collector was hardly safe from the tomahawk of the Indian, but which may reward the application of an otherwise idle hour, passed by a comfortable fireside, during an "evening at home."

Pick up and scrutinise with your pocket-lens any fresh fragments of coal that may have fallen from the shovel upon the hearthstone. If you discern a speck of brighter colour than its black environment, rub the surface showing it, flat enough to be cemented to a plate or "slide" of glass, if that can be done without obliterating the speck. Then turn the opposite side to the whetstone, and carefully rub down your bit of coal till it is thin enough to let light through your "speck." In such a slide you may see in what looks, at first sight, like a thin plate of mere coal, when put under the microscope, a tooth of perhaps novel form, with crown and root; the former may be defined by a coating of enamel, and the dentine may show a rich vascular organisation—the iron of the blood of the old carboniferous fish, or batrachian, imparting the colour that defines the channels along which it was conveyed. Results of such examinations of sections of coal I shall have the pleasure of exhibiting at the close of the present address.

Teeth are organs that, as a rule, have a term of existence more limited than that of the organism of which they form a part. In many of the lower vertebrates the life of teeth is short; they are shed, comparatively, soon after they

are completed and in use; but they are as quickly replaced by others, and this so frequently as to suggest their analogy to the moulted parts of higher animals, such as *feathers* and *hairs*. In mammals there is but one succession in the case of teeth naturally shed; and the successors of the so-called "milk teeth" last long enough to have got the name of "permanent teeth"; but they are rarely retained in much advanced age. Now these commonplaces will, I hope, be condoned as introductory to what I ask leave to tell you in relation to the belief, entertained by many, of the occasional acquisition of a third set of teeth in human centenarians.

Of late the statements of extreme longevity, such as that ascribed to Old Parr, Old Jenkins, and the Countess of Desmond have been carefully sifted, especially by my friend Mr. Thoms, and I concur with him, that physiological science does not possess a duly and credibly authenticated instance of human life having been prolonged in the individual beyond the period of a hundred and five years.

I was led into a discussion on this point by a worthy clergyman, at the table of a friend whom I was visiting; and to my scepticism as to the alleged age and third set of teeth of the old Countess,\* he replied that there then lived in his parish an old woman, alleged to have passed her hundredth year, who was actually cutting "her third set of teeth." I rejoiced at this instance; I had long been convinced that actual phenomena had suggested the statement, but that their nature had been misinterpreted, and I deemed myself most fortunate to have an opportunity of testing the case in question.

The following morning I was driven to the old woman's cabin. It was in the north of Ireland. She was sitting and crooning at her peat fire—a most typical example of human decay. To the shouts of her pastor the deaf old

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\* "In our time the Countess of Desmond lived to the age of a hundred and forty years, and not many years before she died she had all her teeth renewed."—*Fynes Morison's Itinerary*, 1617.

crone replied by pulling down her skinny lip, and exposing the side of her lower jaw, from which there projected through the gum the blackened stump of a tooth, the crown of which had gone probably many years before. The absorption of the alveolar processes, consequent on the edentulous state of the jaw in senility, had brought to light this remnant of a long-lost tooth. Other stumps of teeth, of which the loss of the decayed crown had been forgotten, might, in like manner, appear through the shrinking and absorption of the senile jaw, the parts of which, lodging such stumps, are not removed in the same degree as the truly edentulous portions.

This I take to be the true ground of the allegations as to the acquisition in extreme old age of a third set of veritable teeth.

A great proportion, indeed the chief part of medical science and art, is devoted to restoring the normal action of parts and organs, the abnormal working of which manifests itself in the various symptoms of as many maladies. Whilst the surgical branch of the healing art perfects itself in a power of removing, with safety to life, some part of the frame which cannot be brought back to a condition to perform its allotted function.

To many, perhaps, the most remarkable and striking examples of curative and alleviative skill is the substitution of artificial organs, or helps for organs and structures which are worn out, or removed, or from any cause fail to do the work assigned to them in the living organisation. Very ingenious and useful substitutes for amputated limbs are now supplied by surgical mechanists. The aurist invents his ear-trumpets; he adds to the relatively small conch of man an instrument rivalling in power, and resembling in proportion, the produced external ears of certain quadrupeds. The oculist adapts his spectacles and eye-glasses as supplemental corneæ, or lenses, to all the various degrees and kinds of defective vision, and, after removing a part of the wonderful organ of sight, supplements the lost crystalline lens, by an artificial collector

and condenser of the rays of light. Nay, when the case is such as to necessitate the excision of the entire eyeball, he can replace it with an artificial one, which, if it does not perform the function, supplies the place, of the lost organ, and can only be detected after close scrutiny to be a humanly-manufactured substitute for a mechanism which the Theologist adduces, above all organs, in vindication of a purposive and adaptive Creative Cause.

To the department of the healing art, to which your hospital is devoted, belongs, in perhaps a greater degree, the achievement of substituting, for created organs, the artificial ones which best supply their place, and execute their functions. Whether it be to restore the enamelled gems which complete the charm of the Fair one's face, or the more business-like organs which effect the preparatory process of the all-important function of digestion, you, by common consent, are acknowledged to have brought this part of your speciality to perfection. I feel bound to testify, and to gratefully acknowledge that I never possessed a dental system, at any age, which so completely, so agreeably, and so painlessly performed its functions in every relation—whether as to outward appearance, or as aids to speech, or as preparatory digestive organs—as these substitutes for the natural teeth which I have lost, and to which I bade adieu, perhaps ungratefully, with pleasurable relief, when the seat and cause of agony was gone.

In availing myself of this substitution I am utterly unconscious of the presence of a foreign body, or that I have any other armature of jaws than those that originally formed a natural integral part of my organic framework. You seem to me to have rivalled—even surpassed—the mechanism which, through the operation of the developmental forces, I originally possessed; and I have comfortable assurance that not one of my present incisors, canines, or molars will ever give me cause to groan at toothache.

Mr. ERICHSEN then proposed a vote of thanks to their very distinguished Chairman for his interesting and humorous address :



he had been present at many such meetings, but had never heard an address more appropriate to the occasion.

The motion having been carried amidst great applause, Professor OWEN briefly returned thanks, and the proceedings terminated.

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### Odontological Society of Great Britain.

THE usual monthly meeting of this Society took place at the Dental Hospital, Leicester Square, on May 2nd, Thos. Arnold Rogers, president, in the chair.

Mr. HENRY SEWILL exhibited models of two cases of protrusion of the upper central incisors. The pathology of this curious deformity was, so far as he knew, still quite undecided, and he should be glad if any of those present could throw any light upon it, or throw out any suggestions with regard to its etiology or treatment. The disease occurred only in women, and was not noticeable before the age of twenty-five. The teeth then began to protrude, but did not become loose until at a late stage of the disease; there was no discharge, no inflammation, no wasting of the alveoli and no similar disease of the other teeth. Yet in process of time, the deformity and inconvenience became so great, that the patient was glad to have the teeth extracted and replaced by substitutes. He showed also, by way of contrast, a model of the mouth of a girl only eighteen years of age, showing protrusion of the incisors with wasting of the alveoli. This was quite a distinct disease, and one which was more frequently met with, though rarely in so young a patient.

Mr. DENNANT suggested thumbsucking as a possible cause. The state of things shown by one of the models was just what might be expected in a case where the habit had been continued up to a late age.

After some remarks and suggestions from Mr. Hunt, Mr. Parson and the President, Mr. Sewill replied that the deformity could scarcely be due to thumbsucking, since it did not make its appearance until the patient was twenty-five years of age. Nor was there in either of the cases

referred to, anything in the condition of the lower teeth or under lip which would account for the teeth being thus forced out.

Mr. GADDES read notes of a case of neuralgia cured by stretching the infra-orbital nerve, which had been forwarded to him by Mr. J. R. Gurner, L.D.S., Eng., of Adelaide, South Australia. The patient had suffered from pain in the left cheek and side of the lips for six years, gradually increasing in intensity during that time, until, at last, she could not bear the lips to be touched, could take no solid food, and dreaded even to drink on account of the suffering it caused. A number of decayed stumps were first extracted, but as this did no good, Dr. Gosse, of Adelaide, cut down upon the infra-orbital foramen, and stretched the nerve freely. From the third to the eighth day after the operation, the patient had some return of the pain, but it then ceased, and she went home a month later completely relieved.

Mr. HUNT showed a very convenient gag, invented by Mr. Rose, of King's College Hospital. It was very easily managed, could be introduced between the closed teeth and then expanded, and could be modified so as to fit a large or a small mouth.

The PRESIDENT then called upon Mr. Kinsey to read his paper on the German Method of teaching Deaf Mutes to speak. The subject which he was about to bring before them, being outside their usual professional experience, would probably be new to many of those present; and yet, considering what frequent opportunities Dental Practitioners had of giving advice concerning the education of the children who were submitted to their care, it was important that they should have some knowledge of what had been done during the last few years towards improving the education of deaf children in this country.

It was a popular idea that deafness and dumbness were inseparably connected, but this was not the case. Deaf people could not only be taught to speak, but also,

*apparently*, to hear; and the fact that so many were not possessed of these accomplishments, was simply the result of ignorance and prejudice.

There were three methods now employed for the education of deaf children. First, the system of signs and finger spelling, known as the French, or "Silent" method, because systematised and adopted as the national method in France about 150 years ago. This system, which was the one which had been generally used in this country, taught a deaf child to become dumb.

The second system, known as the "Combined" was identical with the preceding, with the addition that the child was taught to speak words and phrases somewhat after the manner of a trained parrot. The third was the "German" system, so called because it was established and nationalised in Germany about the year 1770, and it proceeded on the supposition that a deaf child was physically and mentally as capable of spoken language as a hearing one. And this was actually the fact so long as the brain was healthy, the organs of respiration, phonation and articulation normal, and the sight good.

In the education of a deaf and dumb child the first step was to gain his attention, to accustom him to obedience and discipline, and to develop his powers of observation. The next was to regulate the respiration, which was generally defective; then came exercises with the tongue and lips, and lastly, the development of articulation was entered upon.

Mr. KINSEY gave an interesting account of the way in which this was done, illustrating his description with examples. In order to be enabled to speak properly, a child had to learn to articulate no less than twenty-five vowel sounds, and thirty-one articulations or consonants. The child learned to pronounce the sounds by watching his teacher's mouth; he was then taught to write the letters representing each on a board, and to pronounce the sound from that, gradually combining the sounds

into words. Lip-reading, articulation, reading and writing were thus taught simultaneously. Next the child learnt to repeat the names of objects, then followed the use of interrogatives and verbs, and then, when he had learnt the use of language, other subjects, such as arithmetic, geography, history, &c. were gradually introduced. Mr. Kinsey added, as a proof of the capacity of deaf born persons to acquire knowledge, that he had known individuals so afflicted who could speak three languages.

From the fact that this system had only recently attracted much attention in this country, and that it had been of late rather widely taken up by the press, many people supposed that it was something entirely new, but this was by no means the case. Isolated instances of deaf and dumb children who had been taught to speak had been recorded from very early times, but it was not until the latter half of the eighteenth century that attention was generally directed to the subject by the labours of two men, who did not confine their teaching to two or three pupils, but who devoted their lives to the work, systematised their respective methods, and founded institutions by which they could be generally diffused. One was the French Abbé De l'Épée, who commenced his work about the year 1755 in Paris, and the other a German, named Heinicke, who, after spending some years in perfecting his system, founded a school at Leipsic in 1778. The first was the founder of the finger-sign method, whilst the latter established the system by which the dumbness arising from deafness was entirely abolished.

Unfortunately the French or "silent" system was adopted in this country as well as in our colonies and in the United States. This was partly due to the superior energy of its inventor and partly to the fact that a certain amount of instruction should be more rapidly and cheaply given by this method than by the other. But whilst the finger system only enabled the deaf to communicate with those of their own class who had been similarly instructed, and with the small number of hearing people who were



acquainted with the system, the oral method enabled them to communicate freely with all their neighbours, and it was a fact that many deaf people who had been thus taught were able to sustain conversation in such a manner that their affliction would not at first be noticed. This system, which had for a hundred years been generally adopted in Germany, had gradually gained ground in Switzerland, Italy, and even in France, and was now at last making itself known in England.

Mr. KINSEY concluded with some statistics showing that there were in England at the census of 1871, about 20,000 deaf and dumb, the number having of course increased since then. Of these about 5000 might be reckoned to be of school age, and there was accommodation in existing institutions for about 2,200, who were being trained for the most part to the use of their arms and hands instead of their voices. Of the remaining 2,700 the greater number were growing up without any education whatever. He considered that this was a great opprobrium to a rich country like England, and a convincing proof that this was a work which philanthropic charity was quite unable to cope with, and which required the active assistance and supervision of the government. He hoped that those present would do their best to make the public understand what a grievous wrong was being done to the deaf in this country in compelling them to suffer an unnecessary affliction—dumbness, and that they would remember that to redress this wrong, increased school accommodation, more teachers and larger funds would be required. If the public could once be made acquainted with the state of the case, he believed that funds would be liberally provided until such time as the Government could be induced to undertake what he believed to be its duty; and if what he had said that evening would in the least degree forward this object he should be quite satisfied.

The PRESIDENT remarked that most of those present must be acquainted with some deaf people, and must, therefore take an interest in the paper they had just

heard. He himself had been getting a little deaf of late, and he found that he had insensibly acquired the habit of watching the lips of those with whom he conversed, though it had not before occurred to him to think why he did so.

Mr. CHARLES ROBBINS said that when he was a boy about ten years of age, he lived for two years and a half in the same house with a deaf and dumb man who was over thirty. This man took a great fancy to him, and after a time he (Mr. Robbins) by way of amusement began to teach him to speak and with considerable success, so that at the end of two years the previously dumb man could say about 150 words.

Dr. BUXTON remarked that if Mr. Robbins could do so much merely out of boyish amusement, it would be evident that those who gave their whole attention to teaching could not fail to obtain good results. If dentists would use their influence to promote the use of the German system they would be doing a great service to their patients.

A long discussion followed in which Messrs. Canton, Sewill, Lyons, Ackers, Arthur Underwood, Charles Tomes, &c., took part.

Mr. KINSEY having briefly replied, the President announced that at the next meeting Mr. David Hepburn would read a paper on "Chronic Suppuration connected with the Teeth." The meeting then terminated.

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### Review.

*Practical Dental Metallurgy.* BY THOMAS FLETCHER, F.C.S.

THE books which are at the present day available as sources of information on the subject of Dental Metallurgy may be conveniently divided into two classes. The first division would include such books as have been written by mechanical dentists, and in which Metallurgy proper occupies a subordinate position; the second, such as are the work of metallurgists who have often treated their especial branch of science most exhaustively, but have for the most part

paid only slight attention to the requirements of the dentist. Under these circumstances it is evident that neither class can be expected to furnish a perfectly satisfactory treatise on the subject. To produce an ideally complete work, the author ought to unite a thorough knowledge of every branch of metallurgy to a practical acquaintance with all the operations of the dentist's workshop, and should thus, starting from general metallurgical principles, be able to avail himself of them, so as to lay down the conditions necessary to ensure successful results, even to the minutest details. As the entire subject of Metallurgy includes both a science and an art, such a work should not only describe the properties of the metals, the modes of reducing them from their ores, of purifying and of manipulating them, special prominence being of course given to those metals and to those operations with which the mechanical dentist is more particularly concerned, but should also explain the *rationale* of each process, and the scientific facts upon which it is based. Here, of course, the objection may be raised by some that there is really no need for treating the subject from such a highly scientific standpoint, that the mechanical dentist need never himself reduce the metals he requires from their ores, and that—provided he is capable of performing dexterously and accurately the various operations of the workshop—nothing more is required. And nothing more would be required were the mechanical dentist content to remain a mere empiricist—a mere automaton for rolling plate and drawing wire to gauge. But, for the intelligent performance of his work, for overcoming the difficulties that are continually presenting themselves, for the simplification of his labours, and for the improvement of his art, it is above all things necessary that he should know intimately the physical and chemical properties of the metals with which he works, and how these properties may be made to vary with the different ores and the different processes employed in their production. We do not, however, mean to imply that a work on Metallurgy should be at the same time a text-book of the sciences of Chemistry, Mechanics, and Physics: the science of Metallurgy is entirely founded upon these sciences, and the study of the former can, under no circumstances, be prosecuted with advantage until the elements, at any rate, of the latter have been mastered. Whilst, therefore, a complete work on Dental Metallurgy need not in the least enter into the elementary principles of either Chemistry or Physics, but should indeed rather take them for granted, it

may justly be required to explain the various operations of the art upon these same scientific principles, and no work that does not attempt this can be considered to have attained to anything approaching completeness.

Having regard to the well-known skill and experience of Mr. Fletcher in matters pertaining both to Metallurgy and to Mechanical Dentistry, we felt entitled to expect from him a work far superior to anything yet published on Dental Metallurgy, and cherished the hope that we should at last obtain an exhaustive standard work on the subject. We regret to say that our expectations have by no means been realised; Mr. Fletcher, indeed, has given to his book the title "Practical Dental Metallurgy," so that we ought, perhaps, to look for nothing further than instructions for executing the various operations of the workshop. Against this subdivision of the subject we have not the slightest objection to raise; on the contrary, there are many reasons why a work on a section, and that not by any means the least important one, of Dental Metallurgy should be highly welcome to all mechanical Dentists. Had Mr. Fletcher confined his work within the limits thus indicated, he would doubtlessly have produced an invaluable hand-book of workshop recipes, and thus have earned the gratitude of all who have felt the need of such a book. But instead of doing this, the author, whilst neglecting the theoretical portions of Metallurgy proper, has included much that should properly be relegated to the chemical text-book, and this is in every instance the most unsatisfactory part of his book. Why, for instance, does he devote a paragraph to the subject of Water of Crystallisation? Or, if he really considers this necessary to the study of Dental Metallurgy, why does he not, at least, take the trouble to make it intelligible?

We will quote Mr. Fletcher's paragraph *in extenso*, so as to avoid all misrepresentation: "WATER OF CRYSTALLISATION.—The weight of any salt or combination of a metal does not always give simply the proportions of the elements contained, as frequently there is also water in combination. This, as water of crystallisation, is always the same for the same compound, and when once known, can be allowed for." Extended comment on our part would be superfluous; we need simply say that to anyone who knows chemistry, the above paragraph is unnecessary, and to one who does not, it is unintelligible. We can hardly shew more clearly the unscientific manner in which this book is written than



by pointing out that in this work on Metallurgy Mr. Fletcher does not even take the trouble to define a metal, though he launches out into numerous more or less accurate chemical and physical definitions. It is the more unfortunate that Mr. Fletcher should have so often introduced purely chemical matter into his work, as he usually falls into some error in so doing, from which ordinary care and attention would have saved him. For instance, in his table of the "Behaviour of Solutions of Metals with Common Reagents," which could easily have been compiled correctly from any text-book on Chemistry by a person quite ignorant of that science, he commits several glaring blunders which will at once be evident to any tyro. Such blunders are pernicious, not so much because they are likely to mislead, but because they give evidence of hasty and careless work, and therefore cause the entire book to be regarded with suspicion, for it need scarcely be said that, in a work of this kind, scrupulous accuracy is above all things to be aimed at.

It would, however, be an invidious task to point out all the chemical errors throughout the book, some of which we may charitably ascribe to the carelessness of the printer; and when, leaving the introductory matter, we turn to the more practical portion of the book, a decided improvement is manifest. Here we find much information that is of the highest value to the practical Dentist, more especially as regards the composition of alloys and amalgams for various purposes. We do not, however, consider that Mr. Fletcher is justified in stating under the head of alloys that "most metals combine in the proportion of their atomic weights, or in multiples of these," and indeed, this statement is at variance with a subsequent and more correct one to the effect that silver and copper "alloy in all proportions." This part of the subject is still involved in some obscurity, but the most feasible theory of alloys, and that which agrees best with observed facts, may be enunciated somewhat as follows: Many metals are capable of forming true chemical compounds with each other, of course in atomic proportions, but these compounds are soluble in, or mixible with, excess of any of the components in any proportions, the resulting, approximately homogenous mass being called an alloy of the constituent metals. Mr. Fletcher, we note, does not invariably apply the term amalgam to an alloy of which mercury is one of the constituents. The abandonment of the word amalgam is undoubtedly the more philosophical course, though not

sanctioned by custom, but in order to be consistent, the word amalgam should be entirely avoided; the use of the two words amalgam and alloy indiscriminately for the same thing is in the present work an occasional source of confusion.

Mr. Fletcher is at his best when he describes the composition and properties of alloys and amalgams, in the production of most of which he has had much practical experience; he is at his worst when he attempts the description of metallurgical processes or chemical phenomena, his faults both of commission and omission being then numerous.

Had he been content to cut out one half of his book, he would have produced a most useful hand-book of reference for the workshop, and an important supplement to a complete work on Metallurgy. As it is, his book is neither the one thing nor the other; far too imperfect for a complete treatise on Dental Metallurgy, it comprises too much superfluous matter for a handy book of reference, though the formulæ it contains cannot fail to be of value to the mechanical dentist, especially when he happens to be in remote districts, where the necessary alloys and amalgams cannot be purchased, and have to be manufactured by himself.

In conclusion, we feel it our duty to make one observation, which we would willingly have left unsaid. Mr. Fletcher's book is not a bulky volume; but, such as it is, fully one-half of the letter-press consists of advertisements, pure and simple, of his gas-burners and other apparatus. We do not in the slightest degree mean to disparage these; on the contrary, we think that they are sufficiently well and favourably known to the scientific world to make such a proceeding on Mr. Fletcher's part unnecessary. The bonds which unite science and commerce are at the present day most closely knit; and the union, having proved beneficial to both, should in the future become still more intimate. But this alliance can only be perpetuated so long as neither takes any unfair advantage of the other, and in the interests of science we must protest against such a degradation of it as is exhibited when a book with a scientific title is taken advantage of, in order to make the public pay for the wholesale circulation of trade advertisements.

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### Appointment.

MR. J. HENRY WHATFORD, L.D.S. Eng., of Eastbourne, has been appointed Honorary Dental Surgeon to the All Saints' Convalescent Hospital, and also to the Eastbourne Provident Dispensary.

## Hæmorrhage after the Extraction of Teeth.

*To the Editor of THE LANCET.*

SIR,—I think the attention of dentists should be drawn to the many and serious cases of hæmorrhage that occur after the extraction of teeth.

During the last year my partner and I have been sent for to attend no less than six cases of this sort, in which nothing short of plugging the cavity sufficed to stop the bleeding. Such cases are sometimes really formidable, owing to the delay in sending for assistance, either from the impression that the hæmorrhage will soon cease spontaneously, or that some wash supplied by the nearest chemist will suffice.

I would suggest that dentists should satisfy themselves as to the complete cessation of bleeding in all cases of extraction before dismissing their patients, and should also give implicit directions about sending for professional aid without delay in the event of the recurrence of the hæmorrhage.

I am, Sir, yours faithfully,

M. PRICKETT, M.D.

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In another column Dr Prickett draws attention to a subject of considerable interest—namely, the evil occurrence of, and the consequences resulting from, prolonged bleeding after tooth extraction. The Dentists' Act, having thrown open the practice of dentistry in all its branches, together with all that can be comprised under that term, has done much to enlarge the source of danger to which our correspondent refers. Cases have been brought under our notice in which very grave results have supervened on the hæmorrhage from the socket of a tooth which has been "dragged out" of its place by a non-surgical dentist. The public will do well to be warned of the peril which may ensue if bleeding after tooth-drawing is neglected. Sufferers who have made the mistake of not in the first instance applying to a fully qualified surgeon for the relief of toothache should at least be prompt in securing the services of a competent practitioner when hæmorrhage begins.

\* \* \* The above letter and short article thereon appeared in the *Lancet* of May 14th. In commenting on them we may remark in the first place, that both the writer of the letter and the Editor of the *Lancet*, seem singularly ignorant of the fact that the hæmorrhage after tooth extraction which gives trouble, is, in nine out of ten cases,

secondary hæmorrhage, and which usually comes on several hours after the patient has left the practitioner. In the second place, our contemporary persistently ignores the fact that the Licentiate in Dental Surgery is as well educated in these collateral subjects as is the general surgeon; indeed it would not be difficult to show that the instruction the former receives in his special courses of lectures in regard to the treatment of alveolar hæmorrhage, anæsthetics, and some other subjects, is more perfect and complete than is generally provided for the student of general surgery only.

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### The L.D.S., Glasgow.

*From a Correspondent.*

DURING the recent examinations for the above License in Dental Surgery, the Dental Hospital at Anderson's College presented a hitherto unusual sight. In accordance with a resolution of the Dental Board of the Faculty of Physicians and Surgeons, seven of the candidates were had up there for practical examination. For the time being the students attending the Hospital were supplanted, and its regular work was carried on by the candidates themselves, under the supervision of the examiners. In the extraction of teeth, in dressing and filling decaying teeth, in all the regular work of the Hospital, as it fell to be done on the morning of their attendance, each of the candidates was made to shew that, in addition to a well-filled head, he also possessed a well-drilled pair of hands; that he had acquired some degree of that finger deftness in the performance of the various operations constituting the work of the Dental Surgeon, without which no one ought to receive a License in Dental Surgery.

In thus taking advantage of the Dental Hospital for so effectually testing the fitness of candidates, it must be conceded that the Faculty of Physicians and Surgeons has made a most desirable move in the right direction. An advance upon the practical part of the examinations at the Royal College of Surgeons, England, it is another step towards the form of examination which must prevail in course of time. A measure of even-handed justice to *sine curriculo* candidates, it forms also a safeguard against the abuse of that door of entrance to the examination. Ten



or fifteen minutes in a Dental Hospital will set in the clearest of lights any man's claim to have been in *bond fide* practice. Candidates *cum curriculo*, fresh from their two years' Hospital practice, will have nothing to fear from the change. By many also this new regulation will be welcomed as tending to strengthen the expectation of those who look to the L.D.S. as the special qualification of the Dentist of the future. A special training having been enforced, a special examination must of necessity follow, and it is gratifying to find the peculiar position of our art thus freely recognised by the Faculty of Physicians and Surgeons. Having allowed the special training, that body has not been slow to give this special character to its dental examinations.

How far this new arrangement may influence the number of those applying for examination remains to be seen. It is quite clear, however, that no man who ought to possess the L.D.S. need fear the ordeal, and no one who ought not to have it will be able to conceal manipulative deficiencies by a mere effort of memory. The effect of the new regulation will surely be to enhance the value of the L.D.S., Glasgow.

*Apròpos* of the numbers presenting themselves at the various licensing bodies for examination, the recently published "Table shewing Results of Professional Examinations, held in 1880 for qualifications granted under the Dentists Act," presents some interesting figures regarding the work done in that year. The figures having been published so recently need not be repeated, but it is interesting to note that, while the Faculty of Physicians and Surgeons, Glasgow, stands second in order in regard to the number licensed, it stands first in regard to the number of candidates refused, the proportion of candidates refused being 1 in 3 at Glasgow, 1 in 7 at Dublin, 1 in 19 at London, at Edinburgh there were no rejections, all who went forward—five—were passed.

One other feature in connection with the L.D.S., Glasgow, seems worthy of being put on record, as much from the suggestion it affords to others similarly situated, as shewing in some measure the amount of progress which has been made since the passing of the Act, viz., the large proportion of local practitioners who have availed themselves of this opportunity. At the passing of the Dentists Act,

there were but two Licentiates in Dental Surgery in Glasgow, now 35 per cent. of the practitioners in that town have obtained the L.D.S., not including those assistants whose names do not appear in the Directory. This result has been brought about by *combination*; by the formation of special classes numerically strong enough to attract the attention of those competent to teach. Meeting at such times as proved most convenient, this large percentage of men in practice prepared themselves for examination, and have been successful in placing their names beyond the reach of challenge as members of a profession, and registered—no longer on sufferance,—but in right of possessing the L.D.S., Glasgow.

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### Correspondence.

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We do not hold ourselves responsible for the views expressed by our Correspondents.

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#### THE EXPURGATION OF THE DENTAL REGISTER.

SIRS,—I have read with much pleasure the letter of “M.R.C.S.” in last month’s journal, for I think the subject of which he treats is one that ought now to be brought prominently forward, not only before the British Dental Association, but also before the profession at large.

On referring to “The Articles of Association,” I see that one of the main objects for which the British Dental Association was formed, was “the proper carrying out of the spirit and provisions of the Dentists Act by such lawful means as may be necessary.” “M.R.C.S.” says “it appears now to be acknowledged that the British Dental Association is quite competent to take the matter into its own hands, and bring the question to an issue through the law courts,” but I would go further, and say that if it does not do so it is not fulfilling one of the primary objects for which it was formed. The Representative Board meets on the 1st of next month, and I hope the opportunity will not be lost for urging on it the necessity for immediate action in the matter.

That the British Dental Association is “competent” as far as ability is concerned, the past forbids us for one moment to doubt. That it is willing, we are assured in the leader of the April number of the Journal, where we are told, “given the means, action will be taken.” Here then lies the difficulty—the want of means.

And I cannot but think that "M.R.C.S." is right when he says that "if the importance of the subject be made clear to the profession, the necessary funds will be forthcoming.

We many of us have expressed in *words* the debt of gratitude we owe to those who have laboured so hard for the good of the profession, and the time has surely now come for us to shew by our *deeds* that they were not meant to be idle words, by placing at their disposal such a sum as shall relieve them from their present difficulty, and enable them to ascertain through the law courts whether the late decision of the Medical Council is a correct interpretation of the Dentists Act or no.

I would suggest that an application for funds be made from the Representative Board to the profession at large. Time will not permit me to communicate personally with the individual members of the Midland Branch before the publication of your next number, but I feel sure that when the opportunity of assisting in such an important and necessary work is offered them they will not be found wanting. And in addition to the five hundred licentiates whose names appear in the Register, there surely must be many hundreds who would gladly avail themselves of the opportunity, were it offered them, of subscribing towards a fund for increasing the value of the benefits they now derive from the privilege of registration.

I heartily support the suggestion that a fund should be formed for this purpose, and will gladly subscribe Ten Guineas towards it, and enter my name to a guarantee fund for a similar amount should it be thought desirable to start one.

Your obedient servant,

HENRY CAMPION, M.R.C.S.E.,

*President of the Midland Counties Branch of the  
British Dental Association.*

July 4th, 1881.

#### TO CORRESPONDENTS.

MR. C. S. BENSTED.—We have reason to believe that the preparation of iron sold as "Bravais' Dialysed Iron" is a very useful tonic, and if not quite so speedy in its action as the "Tinctura Ferri Perchloridi," is free from the objections to the latter, viz., a strong tendency to injure and to excessively discolour the teeth.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.P.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

Λ

*MONTHLY REVIEW OF DENTAL SURGERY.*

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## ASSOCIATION NOTICES.

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### UNPAID SUBSCRIPTIONS.

Members who have not paid their Subscriptions for the current year are requested to forward them without delay to the Treasurer at 36, Sackville Street, Piccadilly, W.

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### THE MEDICAL DIRECTORY,

We wish to call the attention of Members of the profession to the notice respecting the Medical Directory which will be found at page 407. Dental Practitioners are particularly requested to order copies of the Directory for 1882 only through Messrs. Ash.

THE JOURNAL  
OF THE  
BRITISH DENTAL ASSOCIATION  
A  
*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. VIII.

AUGUST 1, 1881.

VOL. II.

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The International Medical Congress.

SEVERAL modifications having been made in the arrangements for the Congress since the issue of the provisional programme, which we published in the June number, it may be useful to call attention to some of these, and to state all that it has been found possible to decide respecting the order of business in the Dental Section.

On the afternoon of Tuesday, August 2nd, the Reception Committee will attend at the Royal College of Physicians to welcome the foreign visitors and other members of the Congress; whilst, in the evening, the proceedings of the Dental Section will be inaugurated by the *Conversazione* given by the President of the Odontological Society. This will take place at the Marlborough Rooms, adjoining the Royal Polytechnic, in Regent Street.

On Wednesday morning there will be the First General Meeting at 11 o'clock, at which Sir James Paget will deliver his address. The business of the Sections will be opened at 3 p.m. In Section XII. Mr. Saunders will open the proceedings with a short address, after which Professor Owen will read a paper on "The Scientific Status of Medicine." We gave, in our last number, a list of the papers

which will be read before this Section, but it has been found impossible to arrange beforehand the exact order in which they will be taken, or the times at which they should be read; they will, however, be taken as nearly as possible in the order given in our list. The discussion on "Mercurial and Syphilitic Teeth," which will be held jointly with Section VII., has been definitely fixed for Friday, August 5th, at 2 p.m. The Practical Demonstrations at the Dental Hospital of London, will take place on Thursday, August 4th, at 2 p.m., and on Monday, August 8th, at the same hour; possibly similar demonstrations may be arranged to take place on other days also, of which due notice will be given. Dr. Magitot will probably read his paper on "Replantation," at 10 o'clock on Thursday morning; this and the other papers on the same subject will doubtless be followed by a good discussion.

We can only just mention some of the chief events outside our own department. Professor Virchow's address, which will be given at 4.30 p.m. on Wednesday, in the theatre of the University of London, will no doubt attract a large audience. On Thursday, at 4 o'clock, the French address will be read by Dr. Féréol in St. James' Hall. On Friday, Dr. Billings, of Washington, will deliver an address at the same time and place. On Monday, Professor Volkmann, of Halle, will deliver an address in German, and we may be sure that Professor Huxley's address on "The Connection of the Biological Sciences with Medicine," which will be given at St. James' Hall on Tuesday, August 9th, at 2 p.m., will form a worthy termination to the proceedings of an eventful week.

Of the various social receptions and entertainments we can say nothing, but we may mention, since it has not yet found a place in the official programme, that Professor Owen will receive the members of the Congress at the New

Museum of Natural History in -the Cromwell Road, South Kensington, Thursday, August 4th, at 1.30, and at the British Museum on Friday the 5th, at the same hour.

Daily programmes of business will be issued during the session of the Congress, and these should be attentively studied by all who wish to make the most of their opportunities.

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### Odontological Society of Great Britain.

#### THE PRESIDENT'S CONVERSAZIONE.

INVITATIONS have been sent to all the Members of the Odontological Society residing on the continent and replies have been received from several. But those invitations which could not have been received in time by Members living too far off, as in Australia, India and America, will be left at the rooms of the Society, 40, Leicester Square, or the President will be pleased to give or send them to Members who will call upon him, or acquaint him with their arrival in London.

The following foreign visitors, amongst others, have expressed their intention of being present:—Dr. Arkovy of Buda-Pesth, Hungary, Professor Wedl of Vienna, Dr. Kolliker of Zurich, Dr. Martini of Turin, Dr. Andrieu, President of the Société Odontologique of France, Dr. Brasseur, Secretary of the Society, and Drs. Colognon, Emile Colignon, Gaillard, Magitot, and Mordaunt Stevens, of Paris.

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### The International Medical and Sanitary Exhibition at South Kensington.

THOSE interested in dental novelties will do well to visit this collection; it contains pretty well everything that the principal firms have to show in the way of new inventions or old inventions elegantly redressed. Those strangers who are visiting London during the Congress will see enough here to convince them that mechanical ingenuity is certainly more prolific than ever, in fact



the Dépôts are making very smooth the paths of operative dentistry. Where all are good it is difficult to select, but we feel inclined to award the palm to Messrs. Ash. Among the long list of interesting appliances they have to show, we would especially notice an improved engine hand-piece, having a cone bearing nozzle (ensuring a very smooth action); an improved engine by Shaw; Power's automatic mallet; a split backed mirror, so constructed as to enable the practitioner to replace the glass himself should it be broken; some excellent improvements in the way of diamond disks and cones; a very convenient arrangement of bracket and saliva pump; a globe gas lamp for dark weather; and many novelties in vulcanite flasks and celluloid appliances, &c., to say nothing of innumerable excavators, engine burrs, and forceps.

Messrs. S. S. White exhibit a water motion engine, which unfortunately was not in working order owing to an absence of water when we saw it; a new form of Allen's bracket table; a Webb electric mallet with a new battery, and a very fine show of artificial teeth, celluloid, and continuous gum work.

G. W. Rutterford has a new engine with an extremely flexible cable certainly worthy of note; a benzine continuous gum furnace which deserves very high praise; a good saliva pump by Marsh; also a new bracket table with inlaid porcelain slabs, and a new dental speculum.

Messrs. Jamieson, Smale, and the Dental Manufacturing Company are also well represented.

We have mentioned a very few among a perfect sea of novelties, and all we can say to our professional brethren is go, and if you are not tempted we shall be surprised.

## Re The Dentists Act, 1878.

[COPY.]

CASE AND OPINION OF SIR JOHN HOLKER, Q.C., M.P.; MR. R. S. WRIGHT; AND MR. G. A. R. FITZGERALD.

### CASE.

HEREWITH ARE SENT:—

1. The Dentists Act, 1878.
2. Copy Case, and opinion of Mr. Fitzgerald thereon.
3. Copy Case, and joint opinion of the Solicitor-General and a Junior Counsel thereon, (see pages 60 to 66 inclusive of the

number of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION marked in red ink).

Before the year 1858 there was no provision whatever for Dental education, and no qualification was required for Dental practice.

Under Clause 38 of the Medical Act, 1858 (viz., 21 and 22 Vict. Cap. 90),—It shall, notwithstanding anything herein contained, be lawful for Her Majesty, by charter, to grant to the Royal College of Surgeons of England power to institute and hold Examinations, for the purpose of testing the fitness of persons to practise as Dentists who may be desirous of being so examined, and to grant certificates of such fitness.

Her Majesty  
may grant  
power to Col-  
lege of Sur-  
geons to insti-  
tute Exami-  
nations, &c.,  
for Dentists.

The College of Surgeons obtained its Dental Charter in 1859, authorising the institution of examinations in Dental Surgery of persons who desired to be examined, and the issue of certificates of fitness to practise. Those persons who had yet to enter upon practise were required to submit to a curriculum before presenting themselves for examination, but persons in practice before the date of the Charter were, on certain conditions, admitted to examination sine curriculo.

A large number of the leading Dental practitioners at once availed themselves of the opportunity offered by the College, and secured the qualification of Licentiate in Dental Surgery, and successful Dental Schools were established for the education of pupils.

The education prescribed was found highly satisfactory, and the benefits secured thereby so incontestible that at a public meeting of Dental practitioners, held in 1875, it was determined to ask Parliament to make compulsory the education and qualification, at present optional, on all who should in future devote themselves to Dental practice, and for the purpose of giving full effect to the obligation, to require registration of all existing *bonâ fide* practitioners.

A Bill was drawn on the lines of the Medical Act, 1858, keeping also in view the Pharmacy Act, 1868, and when drawn was submitted to and approved by the Colleges of Surgeons of the United Kingdom, and submitted also to the Medical Council. The Bill was introduced into Parliament by Sir John Lubbock, and on its second reading was approved by Lord Sandon on behalf of the Government subject to free amendments of detail. These amendments, subsequently drawn by the Government

draughtsman, consisted in making the Bill (at the instance of the Medical Council) conformable with the Dental Section of the Lord President's Medical Bill then before Parliament, it being understood that in case of the Dentists' Bill passing, the Dental Section of the Lord President's Bill would be withdrawn, and steps were taken to this end when the Medical Bill was itself withdrawn. The Bill introduced by Sir John Lubbock became Law as the Dentist's Act, 1878.

As originally drawn, it contemplated the registration only of persons who devoted themselves wholly to the practice of Dental Surgery or Dentistry, and of persons who combined Dentistry with the practice of Medicine or Surgery. Memorials were, however, addressed to Sir John Lubbock by Chemists and Druggists (all of whom are registered under the Pharmacy Act), stating that a certain number of their body combined the practice of Dentistry with the Chemists and Druggists business, and claiming to be registered as Dentists.

To meet what appeared to be a reasonable claim, the words "or pharmacy" were added in the registration clause of the Bill after surgery, and the clause so amended stands in the Act as follows:—

6. Any person who—

Qualification  
necessary for  
Registration.

- (a) Is a licentiate in dental surgery or dentistry of any of the medical authorities, or
- (b) Is entitled, as hereinafter mentioned, to be registered as a foreign or colonial dentist; or
- (c) Is at the passing of this Act *bonâ fide* engaged in the practice of Dentistry or Dental Surgery, either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy, shall be entitled to be registered under this Act.

The promoters of the Act framed sub-section (c) of the above section with the view of admitting to registration persons who practise Dentistry by itself, or persons who practise Dentistry in combination with the legal practice of Medicine, Surgery, or Pharmacy, as defined in the Medical and Pharmacy Acts respectively, and no others.

The preamble of the Medical Act, 1858 (21 and 22 Vic., c. 90), gives as the reason for its passing, that "it is expedient that per-

sons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners;" and the preamble of the Pharmacy Act, 1868 (31 and 32 Vict., c. 121), states that the Act is passed because "it is expedient for the safety of the public that persons keeping open shop for the retailing, dispensing, or compounding of poisons, and persons known as Chemists and Druggists should possess a competent practical knowledge of their business," &c.

Both preambles thus shew that the Acts were promoted and passed for the protection of the public, and a person not registered under the Medical Act is subject to a penalty if he takes the title of Physician, or any similar title; and under the Pharmacy Act, 1868, a person not registered under that Act is liable to a penalty if he takes the title of Chemist, Druggist, or any similar title.

On the passing of the Dentists Act, 1878, the Medical Council proceeded to the work of registration, and with the view of ascertaining under which of the specified conditions a person practised, each applicant for registration under S. 6, p.c. was required to fill in the following form:—

I request to be registered as a Dentist under Clause C., of Section VI., of the Dentists Act, 1878, for which purpose I submit the following particulars:—

1. I hereby affirm that at the date of passing of the Dentists Act, 1878, I was practising Dentistry.\*

(Signed)

2. Declaration required to be made by a person who claims to be registered under the Dentists Act, 1878, on the ground that he was *bonâ fide* engaged in the practice of Dentistry at the date of the passing of the said Act:—

I† residing at‡

hereby declare that I was *bonâ fide* engaged in practice of Dentistry at||

at the date of the passing of the Dentists Act, 1878.

(Signed)

(Witness)

Dated this

day of

18

\* Here has been inserted whether practising separately, or in conjunction with the practice of Medicine, or Surgery, or Pharmacy.

† Here has been inserted the name in full.

‡ Here has been inserted the address in full.

|| Here has been inserted where the practice was carried on.



*Note.*—Any person who willfully procures, or attempts to procure, himself to be registered under this Act, by making, or producing, or causing to be made or produced, any false or fraudulent representation or declaration, either verbally or in writing, and any person aiding and assisting him herein, is liable, under the Dentists Act, 1878, to imprisonment for twelve months.

In fulfilment of the purpose of the enquiry, persons were registered as "In practice before July 22nd, 1878," "with Pharmacy," or "with Medicine or Surgery," if either were practised, as the case might be. On the publication of the Dentists' Register, it was found that a large number of persons had declared themselves to be in the *bonâ fide* practice of Dentistry, in conjunction with Pharmacy, whose names were not to be found in the Chemists' and Druggists' Register, and who could not practise Pharmacy without contravening the Pharmacy Act (31 and 32 Vic., c. 121, s. 15).

Counsel's opinion was taken (Mr. FitzGerald's hereto appended) which confirmed this view, and on its authority those persons were written to, suggesting their withdrawal from the Register. Subsequently the names of those supposed to be incorrectly, if not fraudulently registered, were sent in to the Medical Council, accompanied with a copy of Mr. FitzGerald's opinion. This opinion, together with an opinion which had been obtained from Mr. (now Mr. Justice) Bowen, by the Medical Council, was read by the Council with closed doors, and together with the names sent in, was referred to the Dental Committee of the Council (Section 15 of the Act). The Report of the Dental Committee contains no notice of either of the two opinions, but it is accompanied by opinions of Sir F. Herschell, and a Junior Counsel, a copy of each of which is also sent herewith. It will be observed that this opinion is contrary to that of Mr. FitzGerald, and would apparently make the words of Section 6 of the Act, "either separately or in conjunction with Medicine, Surgery, or Pharmacy," to have no meaning whatever. The Medical Council have adopted the opinion of Sir F. Herschell on the construction of the Act, and the result is that the names of a large number of persons, for the most part Chemists' and Druggists' unqualified assistants, are retained in the Register, whose registration was not for a moment contemplated by the promoters or draughtsmen of the Act, and whose claims to any knowledge of Dentistry

is scarcely colourable, being at most confined to the occasional extraction of teeth on behalf of their employer. Furthermore, the names of others are retained on the Register, who practise some calling other than either of those named in the Act. For example, hairdressers, watchmakers, travellers, cutlers, and opticians.

The meeting of the Council followed the issue of the Report of the Dental Committee too quickly, to admit of any enquiry. Moreover, the appended opinion of Sir F. Herschell was marked (*Strictly confidential, for members of the Council only*), thus forbidding any enquiry. Dissatisfaction was expressed by members of the Medical Council at the meeting, at the manner in which the business had been conducted, but they felt themselves powerless, and constrained to follow in the leading of the Committee, and not only to leave the disputed names on the Register, but also to remove from them the appended descriptive term "with Pharmacy," &c., and even to invite back for registration those persons who had withdrawn their names at the suggestion of the British Dental Association, sanctioned by the opinion of Mr. FitzGerald.

The Medical Council have acted upon the authority of a single high legal opinion, which traverses the opinion upon the soundness of which the British Dental Association depended in bringing before the Medical Council the cases of alleged incorrect or fraudulent registration. With this difference in the legal opinions, the Association can not regard the legal interpretation of the clause in question, as by any means determined.

It is submitted that looking to the wording of Sub-Section (C) of Section 6, and to the fact that the words "the practice of Medicine, Surgery, or Pharmacy" would appear both in legal and popular acceptation to refer to practice by legally qualified (that is to say registered) practitioners under the Medical Act, 1858, and the Pharmacy Act, 1868, and looking as well to the general scope and object of the Dentists Act itself, full effect ought to be given to the words in question. Should the opposite contention be correct, a considerable obstacle will be placed in the way of the working of the Act, and its benefit to the public will be diminished.

COUNSEL ARE REQUESTED TO ADVISE ON THE  
FOLLOWING QUESTIONS.

QUESTION.

(1.) What is the true con-

OPINION.

(1.) The 6th Section of the

struction of Sub-section (C) of Section 6, *i.e.* is Sir. F. Herschell, right or wrong in his opinion?

Dentists Act, 1878, enacts that "any person who . . . (C) is at the passing of this Act *bonâ fide* engaged in the practice of Dentistry, or Dental Surgery, either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy . . . shall be entitled to be registered under this Act."

We are of opinion that the words "practice of Medicine, Surgery, or Pharmacy," refer to legal practice of these professions by duly qualified persons. Even if this were not the natural meaning of the words taken by themselves, we think they must receive this interpretation under Section 34 of the Medical Act of 1858 (21 and 22 Vict., chapter 90) in the case of Medicine and Surgery, and under Section 12 of the Pharmacy Act, 1852 (15 and 16 Vict., chapter 56) and Section 1 of the Pharmacy Act, 1868 (31 and 32 Vict., chapter 121) in the case of Pharmacy.

We are further of opinion that persons who at the passing of the Act practised Dentistry, at the same place in conjunction with another business or profession (not being Medicine, Surgery, or Pharmacy, as above interpreted), are not entitled to be registered under the Act. In each case it will be for the Council to decide as a matter of fact, whether the person's real

- business was Dentistry. They would not be precluded from so finding merely by the circumstance that he occasionally or incidentally, or at some other place, carried on another business, but a person whose real business was that of a blacksmith, watchmaker, or veterinary surgeon, would not in our opinion be a person who was "*bonâ fide* engaged in the practice of Dentistry or Dental Surgery," within the meaning of the Act, merely because he added to that business the practice of Dentistry.

(2.) If wrong, what is the best mode of proceeding to obtain a Judicial decision on the Section?

(2.) We think that practically the only means of obtaining a Judicial decision will be for the Council to expunge from the register the name of some person who, according to the view which we have taken, was not entitled to be registered. The question can then be tried on a Mandamus to restore the name. The Council would no doubt be prepared to give every facility for this purpose.

Flavell and Bowman,  
21, Bedford Row, W.C.,  
July 14th, 1881.

JOHN HOLKER  
R. S. WRIGHT  
G. A. R. FITZGERALD.

### Legal Expenses Guarantee Fund.

A STATEMENT of the objects for which this Fund is being raised will be found at page 319 of the last number of this *Journal*. We desire it to be thoroughly understood that we do not wish the



amounts subscribed for to be paid up at once, indeed it is possible that only a portion of what is promised may be required; at the same time the Board wishes to be fully prepared for all eventualities.

The following additional contributions have been promised:—

				£	s.	d.
W. H. Waite	..	..	..	10	10	0
Morton Smale	..	..	..	10	10	0
H. A. Lawrence	..	..	..	5	5	0
G. Young	..	..	..	1	1	0
M. W. Halliday	..	..	..	1	1	0

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### Western Counties Dental Association.

THE Third Annual Meeting of this Association was held in the Lecture Hall of the Medical School at Bristol, on Saturday, July 30th, the President, George T. Parkinson, Esq., L.D.S.Eng., in the chair.

The minutes of the last meeting having been confirmed, the Hon. Secretary (Mr. W. V. Moore) read the Report of the Council as follows:—

The Council of the Western Counties Dental Association is desirous of drawing the attention of the members to the professional position in which they now stand.

When the Association originated, it was the only one of the kind, although the British Dental Association, the second general meeting of which is to take place in a few days in the metropolis, was in an embryonic condition.

The subject of the relationship of this Society with that of the Central Association was discussed at the last meeting in Bath, and a Resolution "that the Western Counties Dental Association should be affiliated with the British Dental Association" was unanimously carried, with the understanding, that the President and Secretary for the time being, should be (*ex-officio*) members of the Council, and should be delegates and members of the British Dental Association.

This the Council has taken into its consideration, and arranged that its report and transactions should be published free of cost in the Journal of the Association, of which all members shall receive copies, whilst those who are members of

the British Dental Association shall receive the Journal during the whole year.

The Council, therefore, finds the principal source of material expense removed, and is prepared to recommend that the subscription to this Association shall henceforth be reduced to five shillings to all who are members of the British Dental Association.

A copy of a Resolution to this effect has been sent to all the members, in accordance with Bye-Law No. 20.

The Council is pleased to find that the influence of this Society is becoming strengthened; and that the members of the profession who reside within the counties of Gloucestershire and Hereford, are desirous of adding that district to the counties already embraced within the limits of this Association.

The more we are in number, the more influential we shall become for the advancement and well-being of the profession generally. The Council, therefore, recommends that Gloucestershire and Hereford be added to the Western Counties Dental Association, and that the gentlemen proposed by their delegate, R. Rogers, Esq., at the Council held in Plymouth, April 16th, 1881, shall be declared members of this Association.

The subject of advertising has been brought to the notice of the Council by various members, and it is with extreme regret the Council finds, that among the various advertisements sent to it are some from Licentiates in Dental Surgery; who, although morally and professionally pledged by the laws of the Medical Colleges to refrain from thus degrading the profession, yet use this means of dishonouring themselves, and lower the whole body politic.

We are happy to find, as far as is within our knowledge, that only one member of this Society has so far departed from the rules of the Association, and has gone to reside beyond the limits of the Society.

The advertising system indirectly is considerably increased by the custom and influence which some of the leading and most honourably intentioned members of the Medical and Dental profession adopt, in too readily writing certificates and recommendations of the value of advertised articles; it matters not whether it be a new chair or an old footstool, a pulp destroyer or a pain-killer, a new modelling composition or an old instrument revived, &c. If Mr. Anybody recommends it, without even

the composition or construction being fully known, he does that in a manner which encourages the more open advertiser to try the like if he finds it answer his purpose. Not only is this the case with some of the leading members of the profession, but it is worked to a great extent by some of the Dental depôts.

Not long since a notice was issued to the profession generally, offering to supply to any extent a small publication, to which the name of any professional man might be placed on the title page as author, for broadcast distribution. This the Council believes was printed in America; thus the low and degrading influence which prevails too largely in Transatlantic practice, is endeavouring to be extended amongst us, and added to that which already lowers the status of the Dental profession in England.

To a certain extent it does appear to your Council, that much power exists with the Association as a body, to arrest and lessen, if not to wholly overcome such procedure. In the first instance, the Society should be true to itself, and strictly, as a high sense of honour, adhere to its bye-laws. In cases in which it can exert an influence, either directly or morally, it should do so by passing a resolution advising the members of the Society, as a body, to refrain from dealing with any such advertising medium. With regard to those members of the profession who incautiously write letters approving of this or that ware or nostrum, it is the urgent request of the Council of this Association, that those who have been in the habit of so doing, will refrain in future in accordance with an expressed wish of this Society, bearing in mind that those articles which are so extraneously recommended, are often of the least permanent value, and it is universally experienced that a really good thing will best recommend itself.

The members now enrolled have reached the goodly number of sixty-six. We have thus kept in the course with the Midland, and the general interest of this Society may be further materially increased by the members associated with the Western Counties Dental Association. The Treasurer's report is now before you, and after all the expenses are paid, there is a balance of £19 3s. in the Treasurer's hands, which must be reassuring to the members generally of the progressive work of this Association.

The Treasurer (Mr. T. Browne-Mason) then presented his Balance Sheet, showing a very satisfactory excess of income over expenditure.

Owing to the impossibility of getting the short-hand writer's





Report in time, we are compelled to postpone the discussion on the Resolutions, &c., until our next issue.

The following is a list of the officers of the Branch for the ensuing year :—

*President*—Thos. Cooke Parson, M.R.C.S., L.D.S.E. *Vice-Presidents*—G. T. Parkinson, L.D.S.E.; C. Spence Bate, F.R.S., L.D.S.E. *Treasurer*—J. T. Browne-Mason, L.D.S.E. *Local Secretary*—Alfred Smith, L.D.S.I. *Hon. Secretary*—W. V. Moore, L.D.S.E.

*Council* :—F. H. Balkwill, L.D.S.E.; Richard Brown, L.D.S.E.; R. S. Coles, L.D.S.I.; S. Bevan Fox, L.D.S.E.; R. H. Geldard, L.D.S.E.; W. Hunt, L.D.S.E.; W. A. Hunt, L.R.C.P.E.; C. A. Hayman, L.D.S.E.; E. E. Jewers, L.D.S.E.; H. A. King, L.D.S.I.; W. Helyar, L.D.S.I.; Charles Gainne, M.R.C.S.; H. B. Mason, L.D.S.E.; M. Mager, L.D.S.E.; R. P. Morrison, L.D.S.I.; G. W. Pearman, L.D.S.E.; A. Smith, L.D.S.I.; W. R. Tuck, L.D.S.E.; D. Watson, L.D.S.E.; F. Youngman, L.D.S.E.; C. N. King, L.D.S.I.

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After a short adjournment for luncheon, the Members re-assembled to hear the Address of the President, T. C. Parson, Esq., which was as follows :—

GENTLEMEN,—In assuming the position which your kind courtesy has assigned to me I wish it to be understood that I do so, not with any confidence in my own individual claim or qualification to be President of this Association, but with an overwhelming sense of the responsibility attached to my having inherited a name that for years has been connected with the practice of Dental Surgery in the ancient city to which it is my privilege to welcome you this day.

A retrospective glance at the history of Dental Surgery cannot, I think, fail to impress the mind with one consideration, viz., the marvellous development of science and art in providing for the not less wonderful and rapid increase of Dental diseases.

We are accustomed to consider our profession as having no history, but perhaps we have to some extent made up for the lack of antiquity by the celerity of our progress. Distinct records concerning nearly all kinds of Dental operations can, however, be traced back to the middle of the eighteenth century. Long before John Hunter's invaluable works appeared, one Thomas Beadmore (Member of the Surgeon's Company, and Dentist in Ordinary to His Majesty) published a "Treatise on the Disorders and Deformities of the Teeth and Gums," explaining the most rational methods of treating their diseases. It is plain from the plan and scope of this treatise that such operations as filling, scaling, nerve treatment, regulation, transplanting, pivoting, treatment of

affections of the gums and mucous membrane, &c., were commonly performed, and had received considerable attention and study from those who pursued this department.

In about 1778 John Hunter gave to the world the fruit of many years' patient and laborious research. In reading his work on the "Natural History of the Teeth" one cannot help perceiving the mark of a true genius animated by a sound and self-renouncing philanthropy. His experiments in several directions were instrumental in that which is ever a most useful form of labour, the elucidation of facts. His well-known experiments of feeding pigs with madder conclusively established the fact that no circulation exists through the dentine analogous to that found in ordinary bone, and the other familiar experiment of transplanting a human tooth into the comb of a cock demonstrated the possibility of effecting a vital union between tissues having no precise analogy in their texture.

Considering the enormous increase of Dental disease, the question naturally arises, How is it? Can any intelligent reason be assigned for its early appearance and extensive prevalence amongst all classes of the community? The concurrent progress of caries with civilization is admitted on all hands. The jaw of the Zulu or aboriginal Australian presents no traces of this malady; the teeth may be worn down, even to the edge of the gum, by constant grinding of the unground maize, but no chemical action of the fluids of the mouth is visible, the ravages of fungus growths are not present. The degeneration and early destruction of the wisdom teeth in European skulls, as compared with those of uncivilized tribes or the anthropoid Apes, is also an admitted fact. Another curious observation has just been made. Dr. Beddoe and Mr. Tuckett state that the average British head is undergoing a steady diminution in size, amounting to three-quarters of an inch during the last twenty-five years, as shown by the circumferential measurement of hatters. These facts all seem to show that civilization is tending to a deterioration in the structure and build of the human frame, and nothing leads to this conclusion more surely than a consideration of the details of the processes by which the teeth are destroyed.

Agnew says (Agnew's Surgery, vol. ii., p. 927), "The teeth are often considered as having a mechanical rather than a vital connection with the body, and as being removed from the influence of those general conditions which affect other portions of the human system. On the other hand, if the teeth are regarded as an integral part of the vital unit, subject to the same disturbances of nutrition as other members of the body, it is not difficult to understand the exceedingly common prevalence of Dental caries we see around us." Various theories have been propounded to account for the extraordinary prevalence of Dental disease; indeed, the subject is so beset with adverse opinions and conflicting theories, that men who lead busy lives look upon it as a hopeless task to unravel such a Gordian knot. At the same time it is of so much impor-

tance in our every day practice that I need scarcely apologise for entering the controversy, as it behoves us, if possible, to attain a definite conclusion that may form the basis of our efforts to combat the evil we see around us.

We will now, first of all, consider a few points in the physiology of Dentine :—

(a) The fact that it is a non-vascular texture differentiates it from almost every other structure in the body, cartilage being the only other kind of connective tissue which is non-vascular. (The epithelium of the skin is, of course, analogous to the enamel of the tooth, and does not belong to the connective tissue group.) Being non-vascular, it is probably subject to little change, and dentine once formed is probably as permanent a texture as tendon, or any of the other masses of fibrous tissue, and far more permanent than the calcified, but vascular, connective tissue known as bone.

(b) Another feature of Dentine is that, although non-vascular, it should be remarkably sensitive to touch and pain; the cause of this sensibility must be considered as still *sub judice*. Special nerve-endings have been demonstrated in all the organs of special sense, most of which are modified epithelial cells. Whether the odontoblast cell, with its processes may be looked upon as a peripheral nerve-ending may be open to question; the sensibility of the dentine must be due to the fibrils, and the cells of the membrana-eboris are in very intimate contact with the plexuses of nerve fibres on the surface of the pulp. The dentine fibril, although not a nerve-fibre in the ordinary sense of the term, may be looked upon as a peripheral appendage of the nervous system, resembling in its nature the hair-like processes of the epithelium of the organ of Corti, or the rod-like projections on the surface of the olfactory mucous membrane. Harriman, in the *Dental Cosmos*, vol. xiii., speaks of nerve-filaments, contained in the fibre, which he had demonstrated and dissected out by the use of ter-chloride of gold, and which, he states, are less than  $\frac{1}{50,000}$  of an inch in diameter. Whether this observation be confirmed or not, it is clear that the soft contents of the tubes, though not nerves in the ordinary sense of the word, have the power of conducting sensations in a way similar to the action of nerve-fibres; something more than mere transmission of vibration is necessary to account for the exquisite sensitiveness of the dentine and its variations in sensibility.

Boll first pointed out the great number of non-medullated nerves in the superficial part of the pulp tissue; the fibrils ascend from here, between the odontoblasts. It is probable, though not proved, that they ascend into the canals in the dentine. Klein questions the accuracy of the assertion that the cells of the outer stratum, the odontoblasts proper, send processes into the dentinal canals as dentinal fibres. The fibres appear to him to be derived solely from the deep layer of cells which are wedged in between the former. This observation of our best histologist

appears to support the idea that the dentinal fibrils are really peripheral nerve-endings, and that they are hair-like processes projecting into the dentine from the nerve plexuses below, similar to those of the gustatory and olfactory cells, or analogous to the rods of the retina, which have now been shown to be connected with the nerve cells in the superficial layers.

Before proceeding to the discussion of the etiology of caries, it will be well to review briefly the points which indicate the vitality of dentine, which stamp it as one of the living textures of the body, and which are likely to confer upon it a power of resisting decay and of carrying on various physiological processes such as other living tissues are capable of doing.

(a.) *The tubular structure* of dentine is the first important point to note. Although not permeated by blood-vessels, yet it is minutely channelled with fine tubes which, although too small to allow of the passage of blood corpuscles, yet are not too small to allow liquid nutriment and blood-colouring matter in solution to pass along the soft protoplasmic substance which occupies the tubes. The protoplasmic fibres are observed to be directly continuous with the soft protoplasmic substance of the cells of the pulp. These are in contact with an abundant plexus of blood-vessels. The excessive vascularity of the tooth pulp is a matter of every-day observation, and in young teeth the injected blood-vessels are seen to be very large and very numerous.

(b.) *Sensibility* is another result of this tubular structure which gives to the dentine vital characteristics.

(c.) *Various physiological changes* may be observed in dentine consistently with healthy structure.

(1.) Changes in the colour of the teeth in association with abnormal conditions of general health, as in jaundice.

(2.) Changes in colour are also observed from day to day in connection with gastric or other disturbance. I have frequently noticed my own teeth vary in this way.

(3.) The colour is always observed to deepen as age advances, as demonstrated in patients wearing artificial teeth for some years. The varieties in the colour of teeth denote varying degrees of density and of the power of resisting or rapidly breaking down when acted upon by injurious external influences.

(d.) *The formation of secondary dentine* gives another illustration of the physiological activity of fully formed dentine. The irritation of caries on the surface is well known to give rise to the formation of secondary dentine internally, so that some kind of impulse to physiological activity is conducted from the surface through the dentine to the membrana-eboris, which impulse excites the tissue of the pulp to increased effort. The obliteration of the dentinal tubes at the periphery, as stated by Salter, is another illustration showing that new matter has been brought from the blood through the pulp, and conveyed along the tubes



to its destination, in consequence of the morbid activity set up by irritation at the surface. It is frequently observed that the dentine, under plugs of some duration, loses its sensibility to the cutting of an instrument, whereas, should secondary decay occur in juxtaposition, the recently exposed dentine is sensitive to a high degree. I can only account for this on the hypothesis that the dentinal tubes under the plug have become calcified.

(e.) Again it is a matter of every day observation that disease in tooth tissue is dependent on *general conditions of health*, that defects in general nutrition at those periods of life when the teeth are in process of growth give rise to defects in teeth, and that improvement in health may be indicated by an improved nutrition of tooth structure. This is better illustrated by the growth of the nails, as was pointed out by Dr. Wilks (Guy's Hospital Reports), transverse ridges on the nails being an indication of recent acute illness. The nail is a tissue which grows continuously, and teeth which have permanent pulps will probably show precisely similar ridges. Such ridges in temporary teeth may also result from defective health of the mother at a time when she is providing the sole nutriment of the infant. With permanent teeth it is more difficult to demonstrate the periods of imperfect nutrition; such periods leave defects in tooth structure as faults and deficiencies in the enamel, imperfect calcification of dentine, &c. (frequently shown by ridges), which are the foundation of much disease in after years, when the tooth becomes exposed to disintegrating influences. These defects are, however, not necessarily always associated with caries—we frequently see teeth which are thus developed resisting decay. A case in illustration has recently been under my notice, in which every tooth was thus marked, and yet at the age of forty-five not a single tooth had been attacked by caries.

The cessation of caries at a certain period of life, independently of local treatment, and the action upon tooth structure of certain physiological states, as pregnancy, show the dependence of the changes on general states of nutrition. The occurrence of inflammatory action culminating in abscess in dentine, as exemplified by the case quoted by Bell, in which the tooth on being divided displayed a completely circumscribed cavity in the dentine. Mr. Spence Bate also records a case in which there was in the palatal fang a cavity containing pus, completely isolated from the pulp cavity, but with a small opening on the periosteal surface. Wedl remarks that in the teeth of large mammals abscess cavities will be found quite frequently in the dentine. Tomes also describes two cavities of this nature in the tusks of elephants. Red patches are occasionally found in the dentine, as maintained by Salter, who believes them to be a result of inflammatory action. Bell remarks that on purposely breaking a tooth immediately after extraction, where the pain and inflammation had been severe, he found distinct red patches in the very substance of the bone (dentine). These patches are also frequently

seen after the application of arsenic for destroying the pulp. An inflammatory condition of dentine is also shown by extreme sensitiveness of the superficial layer of softened caries, after the removal of which the portion below is much less sensitive. The same hyper-sensitive condition is found to occur after the removal of the enamel and superficial caries in forming permanent separations between teeth. I have repeatedly remarked the difference in degree of sensibility in operations performed on young teeth as compared with those of adults. These cases are further illustrations of morbid activity in a living tissue.

Having reviewed the principal points in the physiological activity of dentine, we may now pass on to the consideration of the nature of dental caries.

The daily life of the Dental Surgeon, however, is calculated to lead to a too mechanical idea of the changes associated with caries; he must of necessity treat the disease from a mechanical point of view, and he may forget to look deeper into the early development of the disease he has to treat with a view to the prevention of its cause, rather than the mere dealing with a fully developed lesion. Time, and the inherent difficulties in dealing with patients who only seek our assistance when driven by pain, prevent that close examination of the first symptoms of the disease which is necessary to enable us to take such measures as would lead to its prevention or amelioration.

Garretson says, "Caries is a disease of chemico-vital relation, and is unfortunately most markedly of congenital association and predisposition; indeed, so true is this, that it may be prognosed that the offspring of parents afflicted in this way will in like manner be afflicted, and that on the other hand the children of parents possessing good teeth will be in like manner favoured." A peculiar case exhibiting this hereditary predisposition has been under my care for some years. Out of a family of six daughters, three have taken on the characteristics of the mother's teeth, and showed signs of decay at an early period, whereas the other three have well-developed teeth similar to those of the father, and are free from caries.

The development of Lister's system of Antiseptic Surgery, carrying with it almost of necessity a belief in the germ theory of disease, has revived Pasteur's idea that the air we breathe is pregnant with life, and that under suitable conditions these germs will develop in animal fluids and solids, producing one of the varieties of fermentation or putrefaction. This theory as applied to the teeth, has been fully elaborated by Ficinüs and Klenke, and more recently in a work by Leber and Rottenstein. As a result of the belief in the universality of germs, and their power to set up putrefactive processes, has arisen the idea that germs are all important in the production of Dental caries, that the leptothrix and other parasitic fungi are the principal cause of the decay of abraded dentine. Even Abbott, although opposed to the Parasitic theory, says: "The indifferent elements originating through the carious process from enamel, dentine and cement,

do not proceed to the new formation of living matter, but become disintegrated and transformed into a mass crowded with micrococci and leptothrix" (*Dental Cosmos*, Vol. xxi.). There are, however, certain objections to the theory, the principal of which is that mentioned by Dr. Abbott, who draws attention to the presence of fungi in salivary calculus, which, instead of causing decay, actually stops the process when the tartar becomes deposited in a carious cavity. Again, Dr. Garretson maintains that the parasitic theory holds good only as fungi, animal or vegetable, are added causes of deterioration lodged in the cavity of a tooth of soft structure. I think the fact that caries becomes arrested without local treatment, in cavities in which micrococci and leptothrix have had full play, shows that their action is insufficient to continue the process.

Again, attempts have been made to prove that the decay of tooth structure is simply a question of chemistry, that the same changes may be observed in a dead tooth as in a living one (Tomes), and that acids of various kinds are the all important agents in the breaking down of Dental structure.

That acids are essential to the disintegration and removal of the lime salts is an admitted fact, but that caries is something more than this most authors agree. The objection to the theory that caries is solely due to chemical re-agents is that all teeth are not affected alike by the decomposition of the debris of the food, which lodges in the crevices of the teeth, and between them, although apparently under precisely similar conditions. Again, there are persons who habitually neglect even the use of the tooth brush, and whose mouths are always in a disgusting condition, with decaying animal and vegetable matter around and between the teeth, and yet they remain sound and free from decay. Free acid in the mouth is very rarely met with, and if the saliva of most persons be tested, it will be found alkaline.

Mr. Spence Bate (in *Transactions of the Odontological Society*) attributes caries to the action of Carbonic Acid, from decaying organic material of the tooth, and fresh supplies from the liquor sanguinis through the dentinal tubuli.

Mechanical injury is considered by Salter as one of the sources of caries by exposing the dentine, or by disintegrating the enamel and rendering it porous, the latter condition being found in crowded jaws.

The electro-chemical theory, as given in a prize essay by Mr. K. Bridgeman, attributes caries of the teeth to the action of voltaic electricity. These different causes, chemical, parasitic, mechanical, and other physical influences, such as changes in temperature, electrical variations, all, no doubt, have their influences; far be it from me to deny their power; all are well established by abundant scientific observers, and the evidence cannot be controverted; but over and above these influences there must be the vitality of the tooth itself, and this is the point I would wish to direct emphatic attention to in my further remarks.

Wedl allows that, since we know that an interchange of material takes place in the dentine and cement during life, as is proved by the occurrence of atrophies, hypertrophies, and new formations, and that the dentine possesses a degree of sensibility, we cannot reject absolutely the idea of a reaction on the part of both hard tissues against the effect of external agents. Neumann, Hertz, and Magitôt speak in favour of the vital theory. They ascribe the thickening and varicose swellings of the dentinal fibrils to a vital process. Neumann compares caries with ulceration of soft parts, having observed a proliferation of the cellular elements of dentine when coloured with carmine. Magitôt considers the carious dentinal cone an evidence of reaction of the pulp against the agent which acts from the outside. This irritation, he says, is manifest on the one side by the production of secondary dentine, and on the other by a molecular deposit in the dentinal canals which become obliterated. These deductions are, however, incorrect, according to the investigations of Leber and Rottenstein, Tomes, and others, who find that carious dentine of re-inserted natural teeth, and the ivory of the hippopotamus, present the same appearances. Salter, on the contrary, says that, although the general resemblance is very striking, and the microscopic changes are to a great extent the same, yet there are several marked distinctions. These are:—

a. A want of limit to the change; the tissues become sodden and soft throughout.

b. An absence of the calcified zone and clear pencils of tubes around the decay.

c. An entire absence of the characteristic smell, which is absolutely peculiar to carious dentine, and is constant.

Spence Bate, in his *Pathology of Dental Caries* (*Transactions of the Odontological Society*, Vol. iv.), mentions the peculiar taste accompanying Dental caries, produced by the rapid decomposition of the fibrine and albumen carried in solution in the liquor sanguinis; there appears not to be the same taste complained of in the decomposition of human teeth when placed in the mouth artificially.

The results of the most recent investigations as to the histology of Dental structures give the most powerful support to the vital theory of caries. Dr. Frank Abbott (*Dental Cosmos*, Vol. xxi.) demonstrates changes in the tooth structure which, he concludes, are evidences of the vital theory of decay; he quotes the investigations made by Dr. Bödecker (*Cosmos*, Vol. xx., 1878), who demonstrates the existence of living matter, not only in dentine and cement, but also in the enamel, and deduces conclusions that caries is an inflammatory process of an acute or chronic form, according as it is rapid or slow in its progress.

Bödecker's conclusions as to the structure of the teeth are as follows:

1. Dentinal Canaliculi are excavations in the basis substance of the dentine, each containing in its centre a fibre of living matter; besides



the dentinal canaliculi there exists an extremely delicate network within the basis substance of the dentine, into which innumerable offshoots of the dentinal fibres pass. The living matter of the dentine is in direct union with that of the protoplasmic bodies of pulp, cementum, and enamel.

2. Cementum—the whole basis substance is traversed by a delicate network, which in all probability contains living matter.

3. Enamel is traversed with fibres of living matter located in the interstices between the enamel rods; the fibres are connected with each other by delicate fibrillæ piercing the rods in a vertical direction; besides these rectangular unions, the basis substance is traversed by a minute network of living matter; the enamel fibres are continuous on the outer surface with the covering layer of flat epithelia, and on the inner surface with the dentinal fibres; the latter connection is either direct or indirect; through the network of living matter or through intervening protoplasmic bodies in the interzonal layer.

Abbott sums up the results of his observations on the history and etiology of caries as follows:—

1. Enamel caries in its earliest stage is a chemical process: after the lime salts are dissolved out, and the basis substance liquified, the protoplasm reappears and breaks apart into small, irregularly-shaped, so-called medullary or embryonal bodies.

2. Caries of the dentine consists of a decalcification, and in turn a dissolution of the glue-giving basis substance, around the canaliculi as well as between them; the living matter contained in the canaliculi is transformed into protoplasmic bodies, which, together with protoplasmic bodies originating from the living matter in the basis substance form the so-called indifferent or inflammatory tissue.

3. Cement, if attacked by caries, exhibits first of all phenomena known to be present in the early stages of inflammation of bone; the protoplasmic cement corpuscles as well as the basis substance after its decalcification and liquifaction produce indifferent or inflammatory elements.

4. The indifferent elements originating through the carious process from enamel, dentine, and cement, do not proceed to the new formation of living matter, but become disintegrated and transformed into a mass crowded with micrococci and leptothrix.

5. Caries of a living tooth, therefore, is an inflammatory process, which, beginning as a chemical process, in turn reduces the tissues of the teeth into embryonic or medullary elements, evidently the same as, during the development of the tooth, have shared in its formation; and its development and intensity are in direct proportion to the amount of living matter which they contain as compared with the other tissues.

6. The medullary elements, owing to want of nutrition and to continuous irritation, become necrosed and the seat of a lively new growth of organisms common to all decomposing organic material.

7. Micrococci and leptothrix by no means produce caries; they do

not penetrate the cavities in the basis substance of the tissues of the tooth, but appear only as secondary formations owing to the decay of the medullary elements.

8. In dead and artificial teeth caries is a chemical process, assisted only by the decomposition of the glue-giving basis substance of dentine and cement.

In the papers of Bödecker and Abbott, it appears to be assumed that nearly all organic matter in carious teeth is living matter, and that the softened matrix remaining after decalcification is protoplasmic; not only does protoplasmic matter result from the abnormal activity of the contents of the dentinal canaliculi, but the basis substance itself is said to produce inflammatory elements; new protoplasmic elements allied to embryonic tissue are believed to be developed from dentine, cement, and even from the hard, inorganic enamel. Now it may well be questioned whether these observers do not see too much, whether their wishes have not to some extent beguiled their vision and stimulated the imagination. It may be doubted whether there is really anything like inflammatory exudation in a carious tooth, seeing there is no definite cell growth or cell reproduction; if the organic matter really be protoplasmic and living, it should be capable of being excited by the abnormal irritation of the carious process to such activity as would produce a true inflammatory exudation. Again it is inferred by these authors that the filaments which stain under the influence of gold chloride, are protoplasmic, and therefore living; accordingly Bödecker finds far more protoplasmic matter in dentine, and even in enamel, than has ever before been described. If this test be a reliable one, the observation is an important discovery as elucidating various obscure points in tooth structure, which have scarcely before been suspected: but one must not forget that the cement between epithelial cells becomes blackened with nitrate of silver, and that fat becomes blackened by the action of Osmic acid. If the processes between the enamel rods described by Bödecker be protoplasmic, so should also be the cement between the different cells of a tessellated epithelial pavement. Surely it is a corruption of terms to speak of this cement as protoplasm, and there is just as little evidence of protoplasmic matter in a mass of enamel.

Various tooth sections, which I am able to show, illustrate many of the points well described by Bödecker and Abbott. I have not, however, been able to find with a power of 1000 diameters any indication of a protoplasmic network within the basis substance of the dentine, nor have I been able to see the protoplasmic fibrils running between the enamel rods. In sections of young teeth no such protoplasmic network in the dentine matrix is visible, and here it should be more readily demonstrated than in the adult. In the young teeth of the kitten at time of birth, the dentine fibrils are easily demonstrated, as they pass from the pulp to the tubes, and their broken ends stand out on the surface of the pulp where the thin layer of dentine has separated

from it; on the outer surface of this ring of dentine, I have been able to find here and there an occasional fibril projecting beyond the dentine, as if it had passed into the enamel, but the outer surface of the dentine is for the most part smooth, and appears to be merely in contact, but not in communication with, the internal epithelium of the enamel organ.

An important fact showing the effect of vital influence on caries is observed almost daily in families who grow up under our observation, that teeth which have been decaying rapidly up to the age of twenty-one, after that age have frequently a complete immunity from caries, which then take on the more chronic form. In some mouths when the ravages of decay at one time threaten to destroy the whole denture, local treatment being totally inadequate to arrest the disease, a change takes place, and the caries is arrested, only however, to commence again at a future time when the health gives way.

As evidence of the constitutional origin of caries may be mentioned the frequency of Rickets and Syphilis as predisposing factors. Now it is generally believed that Rachitis is simply a result of the deficiency of bone salts in the blood, hence the administration of Phosphates as the remedy. This remedy has not, however, answered the expectations founded on this idea, and it has been pointed out that phosphates are often eliminated in excess by the urine when they are much required by the bones, but do not seem to be assimilated. The deficiency in Rachitis, has been shown by Virchow to be, as would be supposed, simply an absence of bone salts from the matrix, the various histological changes of bone formation go on as usual, the cartilage cells proliferate, break up, and a matrix is formed; so great is the amount of cell growth as to give rise to the bulging characteristic of ricketty joints. Going on simultaneously with the imperfect development of bone, the germs of the teeth are undergoing the process of growth and development; is it to be wondered at that the matrix of the young dentine should be imperfectly formed, that in after life the dentine should break down under slight disintegrating influences, and that the well-known interglobular spaces should be present in such dentine, showing that the matrix has been imperfectly formed.

Again, take the case of syphilis, nothing is more common than to find in a child born of syphilitic parents that every tissue and structure in the body is imperfectly nourished, that the mucous membranes are swollen and ulcerated, that the skin is much affected with a specific eruption, that ulcers form readily in the mouth and elsewhere, the epithelial structures being more particularly involved. Strange, indeed, would it be if the young and now rapidly growing tooth germs should not participate in these changes which affect the other parts of the cutaneous system.

In adult life the tendency to caries during pregnancy illustrates the dependence of the process on mal-nutrition. "For every child a tooth"

is a common proverb, the developing germ uses up all the surplus nutriment, and often more than can be supplied by a disturbed digestive system, and the result is, that the constitution in general suffers, when the teeth, as the least vascular and therefore the least vital textures, are among the first to suffer from various physical disintegrating causes, which they are no longer able to resist; at the same time they have to contend with an antagonistic local action, acid eructations, &c.

The effect of chronic dyspepsia and of prolonged anæmia on dental structure are further illustrations of general defects in the physiological nutrition of tissue.

I will now give two or three cases from my note book, which I think are evidences of vital action.

*Case No. 1.*—Showing an attack of caries owing to an illness. H. M. has been under my care for the past ten years, during the whole of that time he has lost no teeth by caries, an occasional filling being all that was required. A short time ago he had a very sharp attack of pleurisy which pulled him down a good deal. When he next presented himself (for some trifling alteration to his artificial teeth), I at once noticed that his teeth were giving way rapidly to an acute attack of caries. The fillings in the other teeth, which had up to the present stood the test, many of them of more than ten years, were now giving way round the margins, and the other teeth were attacked by the acute or white form of caries. There can be no doubt that the effect on the teeth was produced by the lower vitality of the system generally.

*Case No. 2.*—Miss V., age 45, under my care the last eight or nine years; up to the age of 30 possessed very good teeth, with very little decay in them, of the dark or chronic form. About that time she left off taking the small amount of stimulant to which she had been accustomed, and her general health gave way a little; her dental troubles also commenced about this time, the caries taking on the acute character, and the colour of the teeth she tells me has altered from a yellowish tinge to that of a blue, instead of becoming yellower as is usually the case. The fillings I have inserted have been both of gold and plastic compounds, but secondary decay is constantly occurring, and fresh cavities are appearing, although she takes the greatest pains in cleansing her teeth. This case shows to a marked degree the effect of continued decreased vitality; the altered colour of the teeth and character of the caries demonstrates plainly a vital action over and above that of the parasitic or chemical.

*Case No. 3.*—Mr. G. has been under my notice for the last fifteen years. When first he consulted me, it was to cut off a number of upper teeth and furnish him with artificial substitutes; he was then about 19 years of age, and had been suffering from acute caries for some years. Fillings of various kinds were inserted, but constant watchfulness on the dentist's part was prevented by the usual dislike to painful operations. After filling those teeth that were left, and inserting his new teeth, I lost sight



of him for about ten or twelve years; when I again saw him, I found that out of the remaining teeth which had been filled some stoppings still remained, others had secondary decay formed by the side of them, whilst several new cavities were present. The caries must have progressed at that time very rapidly, which was doubtless soon after the teeth were supplied; now, the character has changed to the chronic form, all cavities are deeply discoloured, and caries is almost, if not entirely, stopped, and has been so for some years. The change produced in the character of the caries was undoubtedly due to improved general health and nutrition, the colour of the teeth had deepened, so that they are quite yellow by the side of the artificial ones, which, when made, matched them exactly, thus showing greater density. In this case caries having commenced, the enamel being removed, and cavities formed for lodgment of food and fungi, yet these combined influences were insufficient to continue the carious action and destroy the remaining portion of these teeth, although no local treatment was used to prevent their action, and the cavities were still filled with debris of food, micrococci, leptothrix, &c.

The treatment of caries divides itself into two classes.

a. Local.

b. Constitutional.

a. I can only enter briefly into this portion of the subject, the field being too wide and important to be included in a general outline of the subject of dental caries.

The treatment is directed to counter-balancing the chemical and parasitic actions. To this end, the removal of the caries and filling up all the cavities is the first and most important consideration. In the selection of a filling material the character of the teeth themselves must first be considered; thus the semi-transparent, white, and bluish-white pearly teeth should not be treated with cohesive gold and the mallet, the new departure principles should here be considered; the same applies to rapidly decaying young teeth; gutta percha, oxychlorides, oxyphosphates, and tin, would be found the best. Teeth a little better in quality, the semi-transparent, yellow-white teeth, may be treated with tin and gold, soft gold, plastic stoppings, the binary compounds of silver, copper, and palladium. Those large, dense yellow teeth, associated with vigorous health and a sound constitution, may be filled with the hardest amalgams malleted in, cohesive gold and non-cohesive, with the hand mallet or electric plugger. Regularity in position should be secured if possible; self-cleansing surfaces, cut and polished, are invaluable in the treatment of upper front teeth.

I must also lay great stress upon the preparation of cavities; keeping in view the vitality of the tooth, and so forming them, that the tubes be not cut across, or the enamel left deprived of dentine, such overhanging portions are better cut away, so that nourishment may still be supplied from the pulp.

A vigorous discipline of hygiene and the use generally of alkaline and antiseptic powders, or washes, will be necessary; acid medicines, are, however, indicated in the treatment of that stringy form of saliva, mixed with mucus, generally termed "ropy saliva," which is a condition of super-alkalinity.

b. The constitutional treatment of dental caries may be considered beyond the range of the dental practitioner, and is usually also outside the cognizance of the medical practitioner. But certain as it is that dietetic and other defects of nutrition are potent causes of much of the dental caries which comes under our observation, it is equally true that much of this may be remedied or prevented by a judicious course of constitutional treatment at certain periods.

The influence of diet in the production of Rickets has been pointed out by Dr. Baxter in the debate at the Pathological Society of London (*British Medical Journal*, Vol. II., 1880,) as none of the ordinary factors supposed to conduce to the disease were found to bear any definite relationship to its occurrence, except the nature of the food. In 92 per cent. of his ricketty cases, farinaceous food had been given for varying periods before the age of twelve months. In 42 per cent. it had been given from birth. In 30 per cent. at the age of three months, and in 16 per cent. between six and nine months. In many of the cases, though not in all, the first onset of the disease dated from the time when farinaceous food had been first given. In consequence of the close connection between feeding with farinaceous food and Rickets, he had made a number of experiments on young animals, including puppies, kittens, rabbits, guinea pigs, and white mice, which he had placed on a diet of starch jelly, with variable amounts of added milk. The animals had survived for various periods, not exceeding ten months, the starch jelly for the most part passing through the intestines unaltered. In no single case had he found any characteristic lesion of rickets, the animals only showing signs of inanition. Is it not probable that much of the dental decay which is so prevalent in ricketty subjects is brought about by similar causes? If so, does it not become the duty of the dental, as well as of the medical practitioner, to endeavour to check the almost universal habit of feeding infants on starch food, when that kind of food cannot be digested, and only acts the part of a foreign body in the alimentary canal, and gives rise to diarrhoea and inanition? This question is one which concerns not only the factory and city population, is not limited to the poor, but is also of importance to the better classes. There can be no question that infants of all classes are often fed with unwholesome food, that starch far too often takes the place of milk, and that even the agricultural population suffers from a deficient milk supply, the milk being sent away to the large cities. Nothing but a knowledge of physiology will convince the public that milk is the typical human food, more useful than alcohol to adults, absolutely indispensable to infants, and that starch food is positively poisonous to infant

life. The question of diet is much too large a one for me to enter into further details. I will therefore only allude to the theory advocated by Garretson and others that bread is an inferior food to oatmeal, as shown by the differences in physique which exist between the English and Scotch.

The omission to use the teeth as organs of mastication is another prolific cause of decay; this acts in two ways, both mechanically and by promoting gastric disturbance, as a result of the common habit of eating the food hurriedly and without mastication. This of course leads to difficulty of digestion and to various modifications of the secretions, undue acidity, acid eructations, and so on, all of which will conduce to the development of caries both by local action, and as a result of impaired nutrition.

The general hygienic conditions surrounding the life of the individual are of the greatest importance, and probably the modern habit of crowding together into large cities, and the still more injurious habit of turning night into day, and thereby inhaling products of combustion and of respiration in crowded rooms, have been perhaps the principal factors in the production of the great prevalence of caries amongst civilised nations. The use of coal gas is accountable for much deterioration of health, and the inhalation of poisonous products of city life is an important cause of degradation of physique. The electric light bids fair to relieve us of one of these injurious influences, and the spread of knowledge as to the means of prevention of the escape of sewer gas, and the necessity for ventilation of sewers, will relieve us of another. Agnew remarks:—"The chief causes, therefore, of dental caries are not extremes of temperature, carelessness with regard to cleanliness, the use of sweets; all these may exert their influence, but the chief of all causes is one as general as the system at large, and is the product of all those agencies which go to make up the structure of modern social life, including eating, drinking, sleeping, and education."

The medicinal treatment of dental caries will comprise a review of all the means at our disposal for the improvement of debilitated states of nutrition, arising from all kinds of causes, and will include the treatment of constitutional syphilis, scrofula, rickets, and other diathetic conditions.

The problem to solve is one which affects the system at large, how to check the progressive degeneration of the physique of the population, and its baneful effects upon the teeth. Goldsmith says:—

"Ill fares the land, to hastening ills a prey,  
When wealth accumulates, and men decay."

This is the goal to which we are tending, but each of us can do a little to check this degradation of race, and it behoves us to encourage the desire which is rapidly growing, for fresh air, pure water, and wholesome food, the want of which has been the chief cause of degeneration. Medicinal remedies are of course of secondary importance, but one must

not refrain from alluding to the efficacy of cod liver oil, the phosphates, and hypo-phosphites, particularly in defective states of nutrition of the bones and teeth.

Afterwards the papers mentioned in our last issue were read and discussed ; amongst them were the following :—

### TREATMENT OF DISEASE IN THE DENTINE.

By W. V. MOORE, L.D.S., ENG.

THE existence of all organized bodies, is at best but temporary, none escape the possible necessity of ceasing to be. The history of their functions shows us that from the first period to old age, and sometimes sooner, organisms become deteriorated, and many certainly lose their functional life, others become absorbed, crumble away, and disappear, and at the age of decrepitude, life in them is reduced to but some latent remains of vitality.

That mankind has deteriorated from the earliest created species, there can be little question, and the teeth alone often testify to this fact. Rarely now do we find cases of a perfect set of thirty-two teeth without a trace of disease ; it has been my experience only to observe three, one that of a Caffre, whose teeth had been cleaned after every meal ; another a European of thirty-five years, whose teeth required occasional scaling, the other an Irish girl of twenty-five years, whose saliva was of such a nature as to cleanse a perfectly well formed set of teeth, kept beautifully clean without any mechanical aid. Such are cases, no doubt, of very natural habits of living, unimpaired by excessive indulgence ; often is it otherwise. Inter-marriage may sometimes account for a failing condition of the functions of life in the offspring, and sometimes the parents themselves, the enfeebling tendency of luxurious and somewhat artificial living, also intemperance and its results. The conditions of life to which our race for many generations has been subjected, seem to have modified the broad, well formed jaws and solid structure of the teeth, which were so characteristic of our ancestors, and the advance of civilization has been marked by a general deterioration. The percentage of contracted jaws has been found to be much greater in the children of the higher classes, than in those of less cultivation and refinement, and we now find certain peculiarities in dentition, showing a strong hereditary tendency to produce the same abnormalities, and *vice versa*. When the habits of life are more simplified, as in some of



the humbler classes, there is a marked improvement in the general structure, as also in the solidity and proper arrangement of the teeth. Disease in the teeth may be caused by Defective Nutrition, Improper Food, Inflammation, Absorption, Accident, Functional Disorder, and Friction.

Much has been written by Hunter, Tomes, Harris, Nasmyth, and others more recently, on the structure of the teeth, which is generally accepted; my chief object is to endeavour to prove that the treatment of dentine should be according to the nature of the disease. Mr. Tomes in his work on Dental Surgery, states that he discovered a free acid, gradually breaking down the dentinal fibrils. The free use of spirits will produce this result. Spirit becomes etherised by the acids of the stomach, passing through the venous and arterial circulation, a portion returning to the mouth, distilled off from the lungs, coming in contact with the oxygen of the air, is as all ethers are, converted into acid. This may account for the destruction of the enamel in many cases, the remedy being, reduce the quantity of spirit, resort to a more tonic beverage, and cleanse the mouth with lime water very freely. The degree of acidity is easily tested by placing litmus paper on the tongue. Disease in the dentine is generally expressed by the term caries. But, perhaps, it might be very often described as partial necrosis, being the same in a milder degree as the result produced by the use of arsenic or phosphorus, namely the gradual disintegration of the bony structure. The remedy is to eradicate the diseased portion by a dilute acid, combined with an anodyne such as Liq. Opii Sedat. which is well adapted for entirely removing the softened membrane, and dissolving a portion of the calcareous fibril. The sphacelous or gangrenous condition of dentine can be well treated with an escharotic of some kind, chloride of zinc with morphia is less likely to devitalize the part than arsenic. One lady took frequent doses of an arsenical preparation for eczema, necrosis appeared in the whole of the teeth, so that they all had to be removed. This I take it, is not an isolated case of the effect of arsenic. Oxy-chloride of zinc as a temporary filling, we all know, does consolidate the softened dentine, and prepare for a good gold filling, that may be retained for many years. Azotine is but another form of arsenic. Gum-mastic, gutta percha and wax, &c., are familiar in their effects, and only desirable as a capping over other preparations, to protect dressings, &c. Sweets will change to acid in many cases, and often do injury to children's

teeth. In one child of nine I found the centrals and laterals all showing signs of disease due to this cause, another had taken a quarter of a pound of sweets in one day, thoroughly disorganising the whole system and damaging the structure of the teeth.

Inflammation of the periosteum is another producing cause of dentinal destruction, as observed in the sac, and solid formation of exostosis. Incision of the gums seems the most rational remedy, relieving the vessels, and a warm anodyne injection into the periosteum often affords instant and permanent relief. Absorption of the dentine is found in pregnancy and consumption, when any application is but temporary, the teeth being in a constant condition of crumbling away, becoming by infinitesimal molecular destruction the pabulum of other forms of living organism. Some forms of necrosis are such, that to remove the offending member, is only mercy to the patient, otherwise the result would be a very troublesome abscess caused by the presence of dead matter in living tissue, that might cause a permanent defect, the very interesting dimple which *Punch* informed us was now adopted by the inventive genius of some ladies to produce a new effect. How we can preserve the vitality of dentine should be our inquiry. The use of arsenic requires, no doubt, great care, the removal of any remains of it before finally filling the tooth, otherwise it may affect the whole of the tooth, and ultimately leave a dead member, which will have to be extracted. Teeth there are that have been carefully prepared and filled, also pivoted teeth of many years standing—of the former thirty-six years and upwards, and the latter twenty-six years and upwards. Our bones should be regarded as forming part of a living organism, and protected by suitable treatment after ascertaining the actual diagnosis of the disease, and we shall find them useful without fear of an early crumbling to pieces whilst the living tissues last. We see this strongly marked in sailors' teeth, owing perhaps to the salt air and food, the chloride of sodium to the teeth and ozone to the whole fabric. Antiseptic preparations have been strongly advised by some of our Dental authorities, that is, those medicines which possess the property of preventing animal substances from passing into a state of putrefaction. The chlorides seem pronounced the best, next carbon, which has the property of absorbing noxious gas; then the carbonates and some essential oils; eucalyptus oil and iodoform have been recommended; this essential oil possesses a pinous, camphorous odour. This class of remedy com-

prehends the following: absorbents—carbon, glycerine and oxy-chlorides; digestives—gum mastic, gutta percha, wax, &c.; tonics—preparations of bismuth, zinc and iron; stimulants—chloroform, alcohol, and essential oils; refrigerants—ether, nitre, alum, and salt; anti-spasmodics—arsenic, morphia, and aconite; antiseptics—carbolic acid and the chlorides; anodynes—morphia and opium; solvents—phosphoric, nitric, chloric, and carbolic acids. It will therefore be but reasonable that, according to the diagnosis of the disease in the Dental tissues, should be our careful treatment, to meet with successful issues. The Dentist should be clear on the structure of the teeth, and with careful observation will often do wonders for preserving the Dental fabric, and this judgment and complete work will exalt the profession to its proper position.

### THE PHYSIOLOGY AND PATHOLOGY OF DENTAL CARIES.

By C. A. HAYMAN, L.D.S., Eng.

THERE are two principal hypotheses concerning Dental Caries: one affirming it to be simply chemical action aided by the growth of parasites, the other that it is dependent on "vital action;" by the latter is meant that inasmuch as the teeth are part of a living organism, they are subject to diseases similar to those which affect other organs of the body. I propose to bring forward a few points in favour of the former theory.

Caries bears a close relation to luxurious habits, and it is interesting to notice how it is developed by alteration of habits of living; races not indigeneous but freshly imported into a country appear to suffer in an exalted degree. Dr. Magitot tells us the negro and Arab races have remarkably good teeth, but the Caucasians are remarkable for decay, the Mongolians hold a middle place.

Mr. Mummery gives the following statistics concerning the frequency of caries in ancient crania: amongst the Ancient Britons of dolichocephalic types there were 2·94 per cent. affected.

The Brachycephalic Britons . . . . .	21·87	„	„
The Romano-Britons . . . . .	28·67	„	„
The Anglo-Saxons . . . . .	15·78	„	„
The Ancient Egyptians . . . . .	41·66	„	„

Amongst the Romano-British skulls, contracted jaws were met with three times; this is a thing quite unknown in savage races, and seems to show that the habits of civilisation, which forbid the

thorough use of the teeth, prevent the jaws from growing to their proper size, hence the V-shaped palates so often found amongst the European races.

As regards the general appearance of caries, the first sign is seen in or through the enamel; when in a fissure a dark spot is noticed, but if on a free surface, as the cusp of a tooth, the enamel becomes opaque and has a chalky appearance; later on the shade deepens to a slate and then to a brownish colour.

When the decay has pierced the enamel the dentine is acted on by the decay running in the direction of the tubes towards the pulp, but at the same time it runs laterally, so as to affect the enamel on its inner surface; this soon breaks in and exposes a large portion of carious dentine which forms the base of the cone of decay.

Now let us consider the microscopical appearance of enamel in the early stage of decay, just as the opacity is well marked. We see, under low power, an increased porosity of the tissue, the union of the fibres is very imperfect or even the granular condition may be still in existence. The central portion of the fibre is the first to become affected, and when treated with carmine the middle takes the colour, and the other parts remain unchanged.

But dentine presents a very different appearance; if we take a thin section, cutting across the tubes, we shall find that each tube is enlarged, and as decay advances the intervening substance is affected; it loses its lime salts and allows short lengths of the tubes to be isolated.

But on the surface and throughout the whole of the section may be traced a fungus growth, the *Leptothrix Buccalis*, the origin of which it will be well to consider. It is generally found in the mucus of the mouth, on the surface of the tongue, and in the interstices of the teeth. It is a whitish cheesy substance; under the microscope it presents a gray granular mass, having filaments both delicate and stiff of various lengths, which erect themselves and resemble an uneven turf; it grows to greatest lengths in the interstices of the teeth, where it often forms bundles. On the surface of the tongue are cylindrical or club-shaped elements which are epithelial prolongations of filiform papillæ; these are covered by a thick mass of granular matter of leptothrix, and are shown to bristle with short filaments of the fungus. There are delicate filaments in the saliva, and M. Hallier says they are only movable spores in repose; which wander during a certain period in the liquid, but finally



attach themselves somewhere, and increase by forming new articulations.

When caries has penetrated the enamel and formed a cavity, the *Leptothrix* insinuates itself; it is found covering the superficies of a carious cavity, and together with particles of food forms the first layer. The superficial layers are formed of granular masses and filaments of fungus; a little deeper, where the dentine is brown, it consists of irregular fragments united by *leptothrix*. We see then, in a carious portion of brown colour, irregular chinks filled with *leptothrix* and its elements, and at a remarkable depth it runs in a direction parallel with the canaliculi: this can be seen in sections of decalcified teeth, showing plainly that these fungi have penetrated the dentine to a considerable depth, and have not simply filled pre-existing cavities, but assisted in the destruction of the tissue by burrowing into the deeper parts.

If we take a section of carious dentine, cutting through the tubes, we see the canaliculi becoming gradually larger until they reach a considerable size; they become increased in thickness, and present a beaded condition, showing many varicose dilatations and sinuosities. Later on the tubes are pressed out of shape and are contorted; the regular uniform round appearance is lost, the intertubular substance is lessened, the tubes take a polygonal shape, the matrix entirely disappears, and nothing is left but enlarged tubes filled with *leptothrix* granular matter. This dilatation is due to the *proliferation* of the granular matter, which increases in the tubes to a considerable extent, and is the cause of the change just described, it goes on until the tubes burst and disappear, so allowing the granular matter to unite and form veins or conduits. We often find islets filled with granulations; this can be explained by the direction of the sections which cross a conduit filled with *leptothrix*. The periphery of the tubes is dilated first, and in a superficial cross section we see isolated tubes, surrounded by healthy dentine, which are enlarged and present the same appearance as those which are in the midst of the decay. Now if vital action has been the cause of these changes, why were not all the tubes affected at once, as it is difficult to understand why the pulp would select one tube in preference to another, and why is the action most marked at the point farthest from the pulp? That this is the case can be proved by taking an oblique section, when we shall find the dilatation most marked at the surface, and the deeper we go the more

normal the tubes appear. But if these changes were due to an action going on in the pulp, we should expect to find that the part nearest the pulp would be affected first, and that all the tubes would be dilated at once, and we should not find isolated tubes enlarged at their periphery. This seems to point out clearly that all the changes are caused by external influence, and are in no way due to an inflammatory process going on in the pulp. In order that the fungus may grow and present the appearance just described, it is necessary for the elementary parts to penetrate the interior of the canals, and that there should be a proliferation of very minute and numerous spores to effect dilatation of the canals, and that the leptothrix should have a power of growth and extension of its own.

When caries is well advanced, and there are numerous conduits and clefts filled with granular substance of leptothrix and micrococci, they meet and anastomose so that the softened dentine is divided into irregular patches, which on the surface are very small, so that the least friction, even the saliva flowing over the part, will cause complete destruction of the tissue.

As caries advances, it spreads laterally as well as towards the pulp, always running in the direction of the dentinal tubes; in moderately slow decay the whole mass resembles a cone in shape, the base corresponding with the point where the decay commenced, and the apex pointing towards the pulp. But beyond the cone is a contour line enclosing the zone of transparency, which Mr. Tomes considers is due to consolidation and shrinkage of the dentinal fibrils, so allowing the air to enter the tubes; by making a section from a tooth where decay has been slow, we see the fibrils have been broken in short lengths, and some may be seen standing out from the ends of the tubes, while others divided into short lengths cover the surface of the section, and others lie within the tubes.

It is difficult to understand how transparency could result from the presence of air in the tubes, contrary to all one observes in bone and dentine, where the presence of balsam makes the tissue transparent, but if examined before immersion in fluid, the lacunæ, canaliculi and dentinal tubes have a black appearance, due to the presence of air; this entirely disappears when the tissue is permeated by fluid.

The existence of a zone of transparency is regarded by some as an effort of nature to place a barrier against the approach of decay. Mr. Salter states that the zone is due to a secondary

deposition within the tubes of newly calcified matter which forms a protective barrier tending to limit the disease, and this is used as an argument in favour of the vital action theory; but as the same appearance is met with in natural teeth used for artificial purposes, we shall readily see that this theory is inadmissible.

Dr. Magitot believes that the dentinal fibrils do become obliterated by calcification.

Professor Wedl attributes the increased transparency to the exclusion of air from the tubes.

Leber and Rottenstein deny that the fibrils calcify, and attribute the transparency to the abstraction of a portion of the calcareous salts, which have been deposited in the canals, and are formed by a purely chemical process, that is, by the residue resulting from the solution of the calcareous salts by contact with acids.

I think we shall be convinced that the dentine forming the zone of transparency has been altered from its normal state, and is in the preparatory stage of decay, as it has a brownish colour and is of less consistency as well as transparent.

It will be interesting to notice that in the first stages of decay, the appearance of the enamel is very different from that of the dentine. The former when sound is translucent, but when carious becomes opaque and chalky; the latter when well formed is opaque, but under the influence of caries becomes translucent.

The formation of secondary dentine is used as an argument in favour of vital action, but in answer to this, I would suggest that a repetition of Professor Harding's experiment is going on; he found that calcareous salts slowly precipitated in albumen, resulted in the formation of onion-shaped bodies called calcospherites, so that taking for granted that the zone of transparency is due to the presence of lime salts in the dentinal tubes, why should not a process of calcification similar to the experiment just mentioned, take place at the edge of the pulp.

*The causes of decay* may be classed generally as predisposing and exciting. The faulty development of enamel is one of the most general predispositions to caries. Mr. Tomes describes various defects; he says it presents a brown colour, showing itself in the teeth marked with congenital fissures and indentations, giving the honeycombed appearance, or teeth may have notched or serrated edges. The surface of a tooth may be covered by cracks; this can be proved by placing it in a warm liquid, about the heat food is taken into the mouth, and then immediately

immersing it in iced water; the sudden change of temperature will have the effect of showing these defects most plainly.

Mr. Tomes mentions another kind of defect, namely, congenital white patches, or spots, so often met with in the enamel; these denote that, although the fibrillary structure of this tissue has been more or less preserved, yet the prisms are not strongly united together.

The predisposition of dentine to decay is shown by the occurrence of interglobular spaces caused by the imperfect fusing of the calcification globules, or by the calcareous salts having been prevented through some defect from reaching certain parts of the tooth in sufficient quantities, and M. Magitot has shown that these spaces occur in several uniform layers, running parallel with the surface. In cases like the one just cited, when decay once attacks a tooth, it readily yields to the destructive agents; but if the enamel remain sound—although the dentine may be very faulty—yet it may escape the evil influence. This predisposition is seen in families; there is a certain hereditary tendency to caries which can often be explained by a delicacy and an imperfection of texture which sometimes affects the hair, sometimes the skin, and sometimes the teeth. That these peculiarities do exist is certain and, inasmuch as the teeth are dermal appendages, they are as liable to them as the skin and hair.

Very white teeth, with a bluish tint, are especially liable to decay; but those of the yellow and dark shades seem stronger, and are more rarely attacked. This shows us that those with more organic matter in their composition are stronger, and resist decay more effectually than those with such a large proportion of inorganic matter.

What are the exciting causes of caries? Our reply is, principally an acid reaction and the growth of a parasite fungus, which remove the earthy salts, and destroy the matrix.

In a state of health the saliva is a neutral fluid, and is composed of the secretions of the salivary glands and mucous membrane of the mouth; the former is alkaline, and the latter acid. In health these are present in such proportions as will *make* a neutral fluid, but constitutional derangements will alter these proportions; for instance, in dyspepsia, the saliva is scanty, and the mouth owes its moisture to the presence of mucus. In such cases the gums present a very unhealthy appearance, and mucus is seen stretching across the mouth in strings. Knowing the acid nature



of this, it is not to be wondered that the teeth, in such cases, are generally much decayed.

Another cause of acidity is found in persons suffering from pyrosis (waterbrash), the lactic acid constantly vomited is very hurtful to the teeth. Sugar alone does no harm, but if particles of food lodge in crevices, as meat will do, then the sugar sets up a very active fermentation, and a decomposition of the salts will soon take place.

Citric and malic acids, which are found in cider, act readily on the enamel, and in cider-drinking countries caries is a very common disease. This may be accounted for in two ways; either by the direct action of the acids on the enamel, or by its too free use, causing the digestive organs to be thoroughly upset, and, in consequence, affecting the saliva by making it acid. Some acids act only on the enamel, such as alum, oxalic acid, and acid tartrate.

Leber and Rottenstein tell us of a tooth placed in a solution of alum (1 in 100) that after six days the polish was diminished, and the enamel covered by a light, earthy layer, which was easily removed, but the root remained intact. After twenty days it could be easily removed by the nail, and the root could be more easily cut than in the normal state.

The *Leptothrix Buccalis* plays a very important part in the destruction of a tooth, but its presence is never detected until the acids have made a hollow in which it may lodge.

Caries may be brought about by artificial means, and natural teeth, and ivory blocks worn as artificial substitutes, are liable to be affected in a similar way.

Now, to sum up the foregoing remarks, let me mention a few points in favour of the Chemico-Parasitic theory.

1st. Caries always commences at the outside of a tooth, either in a chink or fissure, or on a plane surface, such as the cusp of a tooth, and although the enamel sometimes breaks in suddenly, and shows a cavity of considerable size, of the existence of which the patient has been entirely ignorant, yet there has been some external communication through a small hole at the bottom of a crevice on some faulty part of the enamel, through which the acids and fungi have been admitted and gone on with their work of destruction unobserved.

2nd. Caries is independent of any inflammatory process going on in the pulp; the dentinal tubes are affected first at their periphery, the nearer we get to the pulp the more normal the dentine.

Again, if the pulp had anything to do with the production of caries, how is it that dead teeth are attacked? for it is a well-known fact that old stumps, which have no pulp left, decay as fast as perfect teeth when first affected.

3rd. Caries can often be accounted for by the neglect of cleanliness; the buccal cavity is one of the most favourite sites for the accumulation of mucus, and if particles of food are allowed to remain in the fissures and interstices of the teeth, fermentation will be at once set up, and with the help of the acid mucus bring about decay.

4th. In examining, with high powers, a section of carious tooth, isolated tubes are seen enlarged, and surrounded by healthy tissue, which have the same appearance as those in the midst of the decayed portion; their dilatation is due to the presence of leptothrix, and the periphery is most affected. Now the fungus could not come from the pulp, or the tubes would be dilated throughout their whole length; that this is not the case, can be proved by taking a deeper section, when we shall come to sound dentine.

5th. If the decay and all the parasitic germs are removed, and the cavity disinfected, so that all septic matter is taken away, and a firm stopping introduced, so as to prevent any external communication whatever, we do not find the tooth is again attacked at the same point.

On the other hand, if decay were due to vital action, we should expect it to advance as fast after local treatment as before. Even if a tooth has been imperfectly excavated, yet has a firm stopping capable of keeping out acids, &c., decay does not advance; this shows clearly that the causes are external and not internal.

6th. Teeth of implantation and ivory blocks used on artificial dentures are subject to caries, and are as readily attacked as natural teeth; the tubes have the same appearance as those of decayed teeth generally, and the change commences at the point of juncture of the block with the plate, or where the wires enter the ivory for the purpose of holding it in place.

Now, in conclusion, let me say that caries is the separation of the constituents of a tooth, by which the earthy is removed from the organic, and is brought about, first by an acid reaction which softens the tissue, then the leptothrix insinuates itself, and grows until the tooth substance is broken down, and that decay always commences in the enamel, and proceeds through the dentine towards the pulp.

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## The Annual Meeting of the Metropolitan Counties Branch of the British Medical Association.

To the Report of the President's Address which appeared in our last issue, we must add that the dinner which followed went off very pleasantly. Seventy-four members and visitors sat down; amongst those present were Dr. A. P. Stewart, Dr. A. Carpenter (Chairman of the Council), Dr. Habershon (the retiring President), Dr. Bridgwater (the President-elect), Dr. Russell Reynolds, Professor John Wood, Mr. John Tomes, &c., &c. At the conclusion of a very satisfactory repast, the President, Mr. Edwin Saunders, proposed the health of the Queen in the following terms:—

GENTLEMEN,—So long as the time-honoured custom of drinking toasts shall survive, there will be no doubt as to what shall be the first toast to rise from the heart, and spring to the lips at every social gathering of English gentlemen. And to this the Medical profession will be no exception. For amidst all the changes, social and political, that are going on around us, there is one sentiment, and there is one custom, which seems to suffer no change. And that sentiment is loyalty, and that custom is the giving expression to that loyalty by drinking to the health of Her Imperial Majesty, the Queen. To the future historian of our times, nothing will appear more remarkable than the continued popularity of Queen Victoria, a popularity which is not fed by gorgeous pageants, by Royal progresses, by a lavish hospitality, or even by frequent public appearances, but which is found, notwithstanding the proverbial fickleness of popular favour, after the long period of nearly half a century in this forty-fifth year of her reign, to be shining with undimmed and undiminished lustre. And if our historian should set himself to discover the reason of this, he would probably come to the conclusion that it is not solely due to our constitutional form of government, though that, as affording the utmost personal and political freedom compatible with public order, is no unmeet soil for the growth of the twin virtues, patriotism and loyalty, but rather to certain personal qualities in the Sovereign, the simplicity of her tastes, and the sincerity of her character, which forbids her ever to use language to disguise her meaning. But more than all to her sympathy with suffering, bereavement or calamity of whatever kind, not confined to the personages of her court, or to the members of the Royal household, or to the great Officers of the State, but which flashes its message

of sympathy and comfort to her hard-pressed, out-numbered, and it may be, fever-stricken soldiers in the burning sands of Southern Africa, or shut up in the rocky fastnesses of Northern India—which sends its few well chosen words of condolence to the humble inhabitants of the Welsh mountain village, whose bread-winners are swept away by one of those too frequently recurring mine explosions, no less than when one of the great ones of the earth is laid low by the dastardly hand of the assassin. This it is which makes English loyalty so steadfast and so abiding, which causes it to strike its roots deep down into the hearts of the people. It is that her subjects come to discern the woman through and behind the trappings of Royalty. It is that they come to know that beneath the ermine there beats a tender human heart, which has learnt to feel for others in the cold shade of her unburied sorrow. Gentlemen, I give you “The Queen.”

The toast having been drunk with the usual tokens of respect, Mr. Saunders said,

Gentlemen, English loyalty does not exhaust itself in rendering homage to the illustrious occupant of the throne, but embraces the whole of the Royal Family, and in an especial manner the heir to the throne and his fair consort. We all know how well the Prince of Wales fills the part of first gentleman of England, and that, wisely eschewing politics, he is always ready to lend the prestige of his presence and exalted rank in aid of the numerous charitable and philanthropic associations for which this country has long been renowned. And we gladly recognise in the Princess an edifying example of the domestic virtues, and her quiet influence as leader of society on the manners and morals of our time. I give you the toast of “the Prince and Princess of Wales and the rest of the Royal Family.”

“Our Military and Naval Forces” having been duly honoured, the President proposed “Continued Prosperity to the British Medical Association,” to which Dr. Alfred Carpenter responded.

Dr. CARPENTER said he never rose to return thanks for the great Association over whose counsels it had been his privilege for the past three years to preside, without a feeling that in his zeal on its behalf, he might say words which it would be better to leave unsaid. This was especially the case when he had to speak to the Members of the Metropolitan Counties Branch, but as this would be the last time that he should have that duty placed upon him, because his term of office was just expiring, he would offer a few remarks upon



a subject which was just now uppermost in the minds of the Council. The meeting must remember of what material the British Medical Association consisted. Its officers were elected very frequently from the body of General Practitioners. They had none of those special funds which belonged to the great Medical corporations, and gave the latter a power in consequence of their ability to pay for services in a way that the British Medical Association had not. The offices of the Association were performed by men who filled them without fee or reward. It must also be borne in mind that the majority of the Members had very different duties to perform in their daily life to the larger portion of those who were round about him. For instance, if any thing happened to a man of note in the great metropolis which led him to "hold his jaw," he went to our distinguished president for relief. If in consequence of indulging too much at my Lord Mayor's or other feasts he suffered in his inward parts, he went to the ex-President on his left hand (Dr. Habershon), if he indulged too much in old port, and suffered from stone he went to Dr. Habershon's predecessor (Mr. Wood) who sits next to him, and then I see at his left hand a distinguished professor to whom he would apply (Dr. Russell Reynolds) if he suffered from overwork or nervous disorder.

The work done by the four distinguished men who sat together, has to be performed by one as regards the great majority of the profession, and he was bound to say that there were among the rank and file of the profession, many as able to deal with the ills that flesh is heir to as the four gentlemen of whom he had taken the liberty to speak. But what said the corporations regarding these men, whom the corporations had educated, and whose money they had taken. We dare not trust them to elect a Medical Council, we must keep the nominations to that council in our own hands. The men who elect officers who do their duty as such officers without fee or reward, and who perform the duty of professional advisers to the mass of the people, are not to be trusted to elect a Medical Council which shall regulate the character of the education which the profession is to receive. I cast back the imputation and say it is false. The British Medical Association has never failed to elect the very best men in the profession for the distinguished office of President of the Association, as reader of addresses and as President of Sections; and when the day comes for the Medical Profession to be true to itself and not pander to rank

and fashion, the Medical Council will be elected by the profession at large, and not consist as it does at present of representatives of colleges and universities to the exclusion of the real workers amongst us. We shall then have a direct progress in our political affairs, and the profession will not be treated as it too often now is by the powers that be. I thank you gentlemen for so kindly receiving the toast.

Dr. RUSSELL REYNOLDS proposed the health of the President in a very good speech, and several other toasts followed, but as they contained no special reference to dental politics, we feel scarcely justified in reporting them in this Journal.

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The Dental Licentiates' List in the "Medical Directory." OUR readers will be sorry to hear that the Proprietors of the "Medical Directory" are still very unwilling to continue the publication of the List of Dental Licentiates. They still assert that the amount of support received from the profession is not sufficient to cover the expenses of the publication of this portion of the work. In order to ascertain how far this supposition is correct, and to afford a basis for future negotiations, Messrs. Ash have kindly consented to act as agents for the supply of next year's issue of the "Medical Directory" to Dental practitioners, and all members of the profession are particularly requested to order copies *only* through this channel.

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### Correspondence.

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We do not hold ourselves responsible for the views expressed by our Correspondents.

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#### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

GENTLEMEN,—In your issue of July 15th a correspondent, writing on the L.D.S. of Glasgow, states that, in 1880, "at Edinburgh there were no rejections; all who went forward—five—passed."

This statement is not correct, and might mislead. The total numbers passed were: in Dublin 47, in Glasgow 23, in London

18, and in Edinburgh 5. Without attempting to account for the remarkable influx of candidates at the other boards, it may be explained that the five alluded to in Edinburgh were exclusively those who came up for the second or more specially deferred examination. The returns of rejections for the first professional examination not having been called for, were not made by the College. It may, however, be mentioned that, since the institution of the Examinations for the Licence in Dental Surgery, the rejections at the Edinburgh College have ranged from about 20, 30 per cent. per annum.

Yours truly,  
JAMES ROBERTSON, pro Secretary

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### Obituary.

FREDERICK NORMANSELL, L.D.S.ENG.

MR. FREDERICK NORMANSELL, of Gloucester Street, Portman Square, who died on July 3rd at his country residence, Maidenhead, was the son and grandson of a dentist. Born in 1808, he joined his father at the age of 20, and in 1844 succeeded to his practice, which he gradually increased and actively carried on for forty-one years.

Of an energetic disposition and fond of work, he was at the same time singularly amiable and patient; tolerant of the opinions of others, and ready to take a hint from anyone, but a thorough hater of quackery and all forms of ostentation. He will long be affectionately remembered by patients and friends, though unfortunately no successor of his name will take his place.

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### Appointment.

MR. STORER BENNETT, L.R.C.P., Lond., M.R.C.S., Eng., L.D.S., Eng., has been appointed Assistant Dental Surgeon to the Middlesex Hospital.

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### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.O.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A  
MONTHLY REVIEW OF DENTAL SURGERY.

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## Legal Expenses Guarantee Fund.

WE are pleased to acknowledge the following additions to the list of subscribers :—

H. Campion	..	..	..	£10	10	0
J. Steele	..	..	..	10	10	0
W. Bowman Macleod	..	..	..	10	10	0
C. H. Bromley, Southampton	..	..	..	10	10	0
Western Counties Branch	..	..	..	10	10	0
T. Cooke Parson, President	..	..	..	5	5	0
Geo. Parkinson, V.P.	..	..	..	5	5	0
C. Spence Bate, V.P.	..	..	..	5	5	0
Richard Rogers, President-Elect	..	..	..	5	5	0
J. T. Browne-Mason, Treasurer	..	..	..	5	5	0
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Alfred Smith, Local Secretary	..	..	..	2	2	0
William Parson, Clifton	..	..	..	5	5	0
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E. E. Brand, Exeter	..	..	..	2	2	0
Charles Gain, Bath	..	..	..	2	2	0
— Boulton, Cardiff	..	..	..	2	2	0
Carton Riches, Cardiff	..	..	..	2	2	0
Alfred Verrier, Weymouth	..	..	..	2	2	0
Alfred Hayman, Clifton	..	..	..	2	2	0
G. C. McAdam, Hereford	..	..	..	2	2	0
H. P. Fernald, Cheltenham	..	..	..	2	2	0
E. J. Ladmore	..	..	..	2	2	0
F. Petty	..	..	..	2	2	0
Jno. Haye, Bath	..	..	..	1	1	0
E. Apperly, Stroud	..	..	..	1	1	0
J. W. Clarke, Bristol	..	..	..	1	1	0
J. G. Hayman, Bristol	..	..	..	1	1	0
T. J. Hatton, Bristol	..	..	..	1	1	0
Stewart Thomson, Bristol	..	..	..	1	1	0
Osborne & White, Bristol	..	..	..	0	10	6

## THE MEDICAL DIRECTORY.

With a view to an arrangement for the continuance of the List of Dental Licentiates in the Medical Directory, Messrs. Ash have kindly consented to act as Agents for the supply of the work to the Dental profession, and all practitioners are particularly requested to order copies of the Directory for 1882 ONLY through this channel.

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# THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION A *MONTHLY REVIEW OF DENTAL SURGERY.*

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No. IX.

AUGUST 15, 1881.

VOL. II.

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### The Congress.

THE international gathering of medical men which terminated at the Crystal Palace on Tuesday evening, will long be held in remembrance by the profession generally as the most successful event of the kind which has yet taken place. The members have dispersed; those from a distance have turned homewards to think over what they have seen and heard, whilst those who have been the entertainers remain to think over not only what they have seen and heard, but what they have done, and we venture to say that the most modest amongst us will be constrained to admit that we have done well.

Thanks to the energy of the officials who have borne the burden of office so well, and to the generous liberality of the leading members of the profession resident in London, visitors have been in no lack of scientific or of

social occupation, and in our own special department we may, without undue egotism, claim to have fulfilled whatever duties may have been imposed upon us by our status as a section of the great international gathering. The week opened worthily with the *conversazione* given by Mr. T. A. Rogers, the President of the Odontological Society, in the Marlborough Rooms; and as worthily terminated with the garden party of Mr. Saunders, on Saturday afternoon. In the intervening evenings the hospitable table of Mr. Saunders was every night surrounded by a succession of distinguished visitors, while others in a more limited, but no less hospitable manner contributed to the entertainment of our guests, and it is gratifying to be able to state that our hospitality has been received in the spirit in which it was offered, and was highly appreciated by our foreign *confrères*. Dentists have justified, both socially and scientifically, the generous recognition which they have received from the managers of the Congress, and whenever and wherever the next international gathering may take place, we trust that the same recognition may be held out to them as an inducement to further exertions.

Whatever matter we may publish from the proceedings of Section XII. must be more or less controlled by the necessary regulations of the General Congress, but our readers may rest assured that all that can be legitimately published in our Journal will be laid before them at the earliest possible date. In our present issue we are enabled to present the opening and closing addresses of the President of our Section, and the invaluable paper read by Mr. Tomes on Dental Education, as the first instalment of matter from the Dental Section of the International Medical Congress of 1881.

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## British Dental Association.

ANNUAL GENERAL MEETING, AUGUST 1st, 1881.

THE PRESIDENT took the chair shortly after eleven o'clock, about forty members being present. On taking his seat, Mr. Tomes said he was very pleased to see several American visitors present, but he feared they would not find the proceedings particularly interesting; there was a considerable amount of business to be transacted, but it was entirely of a routine character. The usual papers and discussions had been dispensed with on this occasion on account of the near approach of the Congress, and he hoped they would have something better to set before their American colleagues in the meeting room of Section XII. than was likely to be offered on the present occasion. He then called upon the Treasurer, Mr. Parkinson, to read his report.

MR. PARKINSON said the balance in his hands on December 31st last, was £36 17s. 8d.; since then, cash to the amount of £529 11s. 2d., has come in. Out of this payments had been made amounting to £219 6s. 7d., leaving a balance in hand that day £347 2s. 3d. Of course this was not a formal balance sheet; there were some outstanding subscriptions unpaid, and bills to be met, particulars of which would be given at the annual audit.

MR. J. S. TURNER then read the following report :—

MR. PRESIDENT AND GENTLEMEN.—The proceedings of the Association are so fully recorded in our Journal, that the Secretary's report is reduced almost to a matter of form. It would hardly interest you to hear how many times the various Committees which are entrusted with the management of your affairs, have met during the last year, or how many letters your Secretary has had to answer since we last met. Whatever events of importance may have occurred beyond such uninteresting details have already been placed before you, or will be so placed, and everything that need be said on such matters, will be said by our President when he addresses you. The Treasurer too, has looked after the financial part of our business, so that it only remains for me to notice the numerical strength of the Association. When last we met, our list of Members amounted in round numbers to 400, and at the present moment we stand at 412. Gentlemen, I need hardly say that I do not expect this report to be received with much satisfaction. If I say to you that I consider this state of affairs a disgrace to the profession, and most discouraging to the Executive, which has tried so hard to merit a



more liberal recognition of their efforts by the profession at large, I only repeat an oft-told tale with which we are all only too familiar. We have, however, to congratulate ourselves on a sudden increase of numerical strength in the accession of the Western Counties Dental Association, which has now become a branch of the parent body, and will, I am happy to say, bring with it a most welcome addition to our present meagre list of Members.

Mr. TOMES: We have now to elect members to fill vacancies in the Representative Board. According to the bye-laws, ten members of the Board go out of office every year. These in the ordinary course resigned some months ago, but as the Board has the power of filling up vacancies in its body in the interval between the Annual General Meetings, it re-appointed these gentlemen until to-day. I have to remind you that all candidates must be recommended by at least six members of the Association, except in the case of those nominated by Branches, in which case the recommendation of the Branch is sufficient. There is one name in the list of nominations which I feel I cannot pass over without remark. Mr. W. B. Macleod takes the place of Mr. David Hepburn, who on account of a heavy affliction which has befallen him is obliged to resign his seat on the Board, and, I fear, will be unable to continue in practice. Mr. Hepburn is one who has always been ready to devote his time and his energies to questions that would advance either the knowledge or the interests of the profession. As Chairman of the Dental Reform Committee, and as President of this Association, I have frequently had to write to him on professional business, and he has always answered my enquiries most promptly and fully, generally enquiring whether there was anything else he could do. I feel that I cannot pass over Mr. Hepburn's resignation without thus acknowledging what he has done for us, and I am glad to learn that members present propose to call attention to his services later in the meeting.

The following gentlemen were then ballotted for and elected members of the Representative Board, viz.:—Messrs. EDWIN SAUNDERS, A. COLEMAN, G. A. IBBETSON, HENRY SEWILL, W. B. MACLEOD, ASHLEY GIBBINGS, W. A. WOODHOUSE, S. J. HUTCHINSON, ALFRED HILL, and DAVID HEPBURN.

The following were also elected as representatives of the Midland

Branch :—Messrs. STEWART (Liverpool), MAHONEY (Sheffield), and NICOL (Leeds).

Mr. TOMES said the next business was to choose a President-elect. Under Bye-law 8, the Representative Board had nominated Mr. Campion, of Manchester, for this office. His election was suggested as a compliment to the first considerable branch which had been formed in connection with the Association, and for the same reason the Board would suggest that the Annual Meeting should be held next year in Liverpool, as a centre of the Midland district.

Mr. CAMPION was at once unanimously elected by show of hands.

Mr. STEWART said he hoped that the meeting would adopt the suggestion of the Board, and decide to have the next gathering at Liverpool. He could assure them that the members of the Midland Branch would give them a hearty welcome.

Mr. CUNNINGHAM thought that Liverpool ought to be chosen. The practitioners in the Midlands had set a good example, and he wished those in other parts of the country could be induced to follow it. There ought to be branches in all parts. When Americans asked him what the British Dental Association was, he was obliged to describe it as it ought to be, for he was ashamed to tell them what it was at present. What was wanted was more active exertions on the part of individual members; if all were as active as Messrs. Campion and Stewart the number of branches would soon increase.

Mr. TURNER said that at the recent meeting of the Midland Branch, the Association had received a direct invitation from the President of the Liverpool Medical Society; he was told that if the Association decided to come there, the rooms of the Medical Society would be placed at their disposal, and everything done for their convenience.

The recommendation of the Board was agreed to.

Mr. TOMES: The next point for consideration is as to the time. The Board suggest that the meeting should be held between August 19th and 30th; it was advisable to leave some latitude, so that care might be taken that their meeting might not clash with any other important meeting.

Mr. COLES suggested that as the 19th would be a Saturday, the resolution should be altered to "between August 18th and 30th;" the 19th might be a convenient day for the meeting.

Mr. STEWART said he thought the meeting should be made to extend over two days—there was plenty to be seen in Liverpool.

The resolution, as amended by Mr. Coles, was then carried.

The following gentlemen, who had been duly nominated, were then ballotted for and elected members of the Association:—C. A. HAYMAN, MATTHEW FINLAYSON, H. P. FERNALD, H. PROUT, R. GLINDON, C. R. COFFIN, and WALTER COFFIN.

Mr. T. C. PARSON said he had great pleasure in stating that at the Annual General Meeting of the Western Counties Dental Association, which had been held at Bristol on July 30th, the resolution proposed by Mr. Spence Bates that that Association should be affiliated to the British as its Western Branch, had been unanimously agreed to.

Mr. UNDERWOOD then rose to call attention to a subject which had been alluded to by the President earlier in the meeting. A Member whose whole life had been one long effort for the furtherance of the profession, had met with a heavy affliction. He had known Mr. David Hepburn for forty years, and should have been glad to have enlarged upon the traits of character which had endeared him to a large circle of friends. But Mr. Hepburn was so widely known, and so universally beloved, that he felt this was unnecessary. He would therefore at once propose the following resolution, "That the meeting tenders its sincere sympathy to Mr. David Hepburn, of Edinburgh, and his family, on his heavy affliction, and records its sense of his earnest and consistent endeavours to raise the position of the profession."

Mr. Walter CAMPBELL said he had known Mr. Hepburn for a great many years, and could bear testimony to the truth of all that had been said in his honour. In Scotland he was not only esteemed but beloved by all, especially by the Members of the Odonto-Chirurgical Society.

The resolution was carried unanimously.

Mr. TOMES: We have during the past year been somewhat out of order. At our last annual meeting I was only designated as President-elect. Mr. Coleman should have been President during the year; he should go out of office to-day, and I should succeed him. I must now give the usual account of what has occurred during my year of Office.

The terms of the resolution in favour of my appointment

as President for the current year give the reasons for the selection, and are to the effect that I am best acquainted with the formation of the Association. It is hence clearly expected that I shall in my address deal with its affairs, and in the face of the Congress, where dental science will meet with free discussion, I shall confine my remarks to questions which have arisen since our meeting in August last.

All will remember that we had good reason to believe that many persons destitute of legal claim obtained a place in the Dentists' Register, and on the strength of counsel's opinion the names of such persons were brought before the Medical Council with a view to their removal.

The Council had obtained an opinion from Mr. Charles (now Mr. Justice) Bowen, and it has not been denied that this opinion agrees on all material points with the one (Mr. G. A. R. Fitzgerald's) upon which we acted. These two opinions, together with the cases of alleged incorrect or fraudulent registration were referred by the Council to its Dental Committee, the business of which consists of finding the facts of the submitted cases. In February last the Council was called together for the transaction of dental business. A few hours before the meeting, the Report of the Dental Committee was issued, and to our utter amazement no word was therein said about the two referred opinions, but a third, Sir Farrer Herschell's, was produced, wholly traversing them. Resolutions were proposed by members of the Committee which involved the acceptance of Sir Farrer Herschell's opinion, without giving any reason or adducing any argument in favour of its selection, as being superior to those from which it so greatly differed, and the resolutions were accepted by the Council, not however without complaints and expostulations.

The Council adopted the course which, under like circumstances, any other similarly constituted body would take—it retained the questioned names rather than accept the risk of legal proceedings for the restoration of the erased. We, as the proposers of erasure, have no ground



for complaint against the Council, but we have very strong reasons for disappointment as to the manner in which the Dental Committee conducted the business submitted to it. In taking the opinion of Sir Farrer Herschell there is nothing to show that the previously obtained opinions of Mr. Bowen and Mr. Fitzgerald were placed before him; and the case submitted, and upon which he gave his opinion, was further wanting in the recital of many relevant facts. Again, the Dental Committee is empowered to call in the aid of any one who can afford information or render assistance, yet no member of the dental profession was called in to advise respecting purely dental questions upon which the Committee was ill-informed—so ill that Dr. Quain was allowed to define dental practice as mere tooth-drawing, in support of the retention on the Register of tradesmen who admitted that their dental practice was limited to taking out teeth.

The resolutions passed by the Council are to the effect that sufficient evidence has not been produced to justify the removal of the proposed names from the Register. That persons are registered as in the practice of pharmacy, who could not legally so practise, and that others are registered who carried on businesses not mentioned in the Act is admitted by the Dental Committee. The wanting evidence was therefore not evidence as to facts of registration, but legal evidence as to the interpretation of the words of section 6, paragraph (c) of the Act, that is, as to whether the words “in conjunction with medicine, surgery or pharmacy” are destitute of meaning, as alleged by Sir Farrer Herschell, or are to be read as having their usual meaning as contended by Mr. Fitzgerald, and as it is believed, also by Mr. Justice Bowen. We were advised that if a carefully drawn case were submitted to a combination of high legal authorities, their decision would strengthen one opinion or the other to such an extent as to render the interpretation near to a certainty, and as near as any procedure short of bringing a test case before the high court of judicature could do. It is well known that, quite apart

from the eminence of the Counsel consulted, the manner in which a case is drawn will influence the nature of the opinion thereon. Counsel do not go outside the case submitted to them, and the statement of the case may unintentionally suggest the answer. An instance in point occurred, I think, when the Medical Council resolved to ask Counsel whether "they (the Council) are entitled to register in a separate column the qualifications in medicine and surgery under the Medical Act held by registered Dentists, or only higher qualifications in Dentistry." Here it is, on the authority of the Council, indirectly stated that a surgical or medical qualification, when added to a dental, does not imply a further knowledge of the principles of surgery applicable in the practice of dental surgery, and Counsel almost of necessity answered in the negative. But had the case submitted contained a statement of the relations of dental to general surgery, and been accompanied with a copy of the curriculum of each, the answer would probably have been reversed, or it might have been said that the question was one for the Council itself to determine. Counsel could not be expected to know anything about the details of medical and dental education and their relations to each other. The latter view has indeed been since taken and acted upon by the Council.

In conformity with, and under legal advice, a case has been very carefully drawn, and with all the published opinions (Mr. Justice Bowen's, although much talked of, has not yet been published) has been submitted to Sir John Holker, the Attorney-General of the last Government, Mr. R. S. Wright, and Mr. G. A. R. Fitzgerald, the draftsman of the Act. The following opinion is the result of a full and, I think I may say, exhaustive consideration of the case.

#### QUESTION.

(1.) What is the true construction of Sub-section (C) of Section 6, *i.e.* is Sir. F. Herschell, right or wrong in his opinion?

#### OPINION.

(1.) The 6th Section of the Dentists Act, 1878, enacts that "any person who . . . (C) is at the passing of this Act

*boná fide* engaged in the practice of Dentistry, or Dental Surgery, either separately or in conjunction with the practice of Medicine, Surgery, or Pharmacy . . . shall be entitled to be registered under this Act."

We are of opinion that the words "practice of Medicine, Surgery, or Pharmacy," refer to legal practice of these professions by duly qualified persons. Even if this were not the natural meaning of the words taken by themselves, we think they must receive this interpretation under Section 34 of the Medical Act of 1858 (21 and 22 Vict., chapter 90) in the case of Medicine and Surgery, and under Section 12 of the Pharmacy Act, 1852 (15 and 16 Vict., chapter 56) and Section 1 of the Pharmacy Act, 1868 (31 and 32 Vict., chapter 121) in the case of Pharmacy.

We are further of opinion that persons who at the passing of the Act practised Dentistry, at the same place in conjunction with another business or profession (not being Medicine, Surgery, or Pharmacy, as above interpreted), are not entitled to be registered under the Act. In each case it will be for the Council to decide as a matter of fact, whether the person's real business was Dentistry. They would not be precluded from so finding merely by the circumstance that he occasionally or incidentally, or at some other place, carried on another business, but a person whose real business was that of a blacksmith, watchmaker, or veterinary surgeon, would not in our opinion be a person who was "*boná fide* engaged in the practice of Dentistry or Dental Surgery," within the meaning of the Act, merely because he added to that business the practice of Dentistry.

#### QUESTION.

(2.) If wrong, what is the best mode of proceeding to obtain a Judicial decision on the Section?

#### OPINION.

(2.) We think that practically the only means of obtaining a Judicial decision will be for the Council to expunge from the register the name of some person who, according to the view which we have taken, was not entitled to be registered. The question can then be tried on a Mandamus to restore the name. The Council would no doubt be prepared to give every facility for this purpose.

JOHN HOLKER  
R. S. WRIGHT  
G. A. R. FITZGERALD.

This I think you will consider a very satisfactory result, and one, which if it were to lead to no further action, would fully justify the course taken by the Association. Surely this is additional legal evidence of the most weighty kind, and it is hoped sufficient, with that which they already possess to the same effect, to induce the Council to take active steps towards the correction of the Register. That Sir Farrer Herschel with Mr. Muir Mackenzie gave a contradictory opinion, may in some part be due to the form in which the case was submitted; and its medical character, upon the details of which Counsel can not be expected to be well informed, renders the correctness of this supposition much the more probable.

Assuming the information supplied to Counsel to be equal, such difference in the interpretation of a simple phrase by eminent lawyers, seems scarcely credible.

It must be remembered that although Sir Farrer is Solicitor-General, and is spoken of in the Report as such, his opinion is given in his private capacity—simply as a member of the Bar—and not in his official capacity as a responsible member of the Government.

The case and opinion have been submitted to the Medical Council with a strong appeal for a reconsideration of the cases reported upon by the Dental Committee, and with an expression of hope that Mr. Bowen's opinion may be published. We have now placed the Council in possession of additional legal evidence, which, with that previously held, may be thought sufficiently conclusive to justify the erasure of the reported names, or at all events to call for such action as will lead to a judicial decision, a proceeding which, I am told, if taken on a mandamus for restoration to the Register, would not be attended with great expense. Should it be deemed necessary to carry a test case to a high law court for the determination of the law, the Council may reasonably be expected to furnish the means from the Dental funds. But if law proceedings be necessary the subscription list printed in our *Journal* shows that the Members of the Association will not allow the case to



go by default for the want of available funds to bring it to a trial.

I have as yet spoken only of our troubles, let me now for a moment revert to our successes and our pleasures. Since we last met our specialty has met with very full and gratifying recognition as a branch of surgery, at the hands of the Medical Profession. Dental Surgery for the first time is represented by a section in the International Congress. A member of our Board, Mr. Saunders, is the President of the Metropolitan Branch of the British Medical Association. Surgical qualifications are entered in the Dentists' Register, not as qualifying but as additional qualifications, and the last but certainly not the least cause for hearty congratulation is the entry during the present year in the Students' Register, of about one hundred names—and be it remembered that persons cannot register the commencement of professional studies until they have passed the preliminary examination in general knowledge. One hundred qualified practitioners added to our ranks each year would suffice to keep up a body of nearly 4,000 Dental Surgeons. To those who sometimes read the law reports in newspapers the difficulties we have encountered in our efforts to obtain a revision of the Dentists' Register, will not seem surprising. But in this as in other matters of business, success, if rightful, will follow the exercise of patience, perseverance, and forbearance—not, however, if the latter word is interpreted as meaning indifference. We ask only, and we are justified in asking, for a Register correct in the eyes of the law, and which is neither disfigured by laxity or by severity of administration.

Mr. FINLAYSON said that after the admirable report of the events of the past year, to which they had just listened, he felt he need say nothing in defence of the resolution he was about to propose, viz., "That this meeting approves the course taken by the Representative Board for the purpose of obtaining a correction of the *Dentists' Register*." The motion was seconded by Mr. Balding, and carried unanimously.

The PRESIDENT said it was a great satisfaction to those en-

gaged in these somewhat anxious duties, thus to receive the expressed approval of the members generally.

Mr. W. B. MACLEOD said, we have expressed our approval of the course of action adopted by the Representative Board, but we must remember that nothing can be done without application *and money*. The Board provides the first, but we cannot expect it to provide the second. We are bound to supply them with the means for carrying out the line of policy which we have approved. I, therefore, move "That this meeting pledges itself to use its best endeavours to collect a fund sufficient to enable the Representative Board to obtain a judicial decision respecting the cases of alleged incorrect Dental Registration.

Mr. BROWNE-MASON, in seconding the resolution, said that at the meeting of the Western Branch £80 was subscribed, in addition to £10 voted from the balance in his hands as Treasurer.

Mr. TURNER said that although there was a considerable number of members in the room, there were only about twenty of their names down on the list of those attending the Meeting, and he hoped that on the resolution being carried, every gentleman present would add his name to the list.

The resolution was then carried.

The PRESIDENT said that concluded their business. In the ordinary course there would have been a meeting at 2 p.m. for the reading and discussion of papers, but it had been thought better to reserve all papers for the Dental Section of the Medical Congress ; and, therefore, the afternoon meeting, if held, would be merely formal. He thought it would be better if a member would move that the meeting be adjourned.

A motion to this effect was proposed by Dr. Walker, seconded by Mr. Cunningham, and agreed to.

Mr. STEWART then proposed a vote of thanks to the President which was carried amidst great applause, and the meeting adjourned.

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### Western Counties Branch. ANNUAL GENERAL MEETING.

As stated in our last issue, the meeting was held in the Lecture Hall of the Medical School, at Bristol, on the 30th ult. When the retiring President, Mr. G. T. Parkinson, took the chair at noon, there was a large attendance of members and friends.

The SECRETARY, Mr. W. V. Moore, having read the Annual Report (see page 374),

Mr. F. H. BALKWILL called attention to the sweeping condemnation of the doings of their Transatlantic brethren which it contained; we owed a great deal to them, and he thought the expression ought to be modified.

Mr. J. S. TURNER thought it was a pity that the expressions alluded to by Mr. Balkwill should have been admitted into the Report. He did not think they could afford to throw stones. Whatever position the Dental practice of America might be in, he did not think they had much to boast of in England. He did not see that it would forward their cause to retain the sentence alluded to by Mr. Balkwill, nor did he see that it would injure the Report to have it removed.

Mr. J. COOKE PARSON proposed that the sentence should be omitted.

The CHAIRMAN remarked, the passage was suggested by the fact that a little pamphlet was published in America, which had been circulated amongst them, together with a notice to the effect that if a professional man would take a certain number of copies, he could put his own name on the book, and have it circulated as his own work. He thought that a Society like theirs would hardly allow such a thing to pass without expressing its disapproval. His own idea was that the sentence should be retained. The passage only alluded to this fact, and contained no reflection on Dental practitioners in America.

Mr. SMITH TURNER was of opinion the allusion was very plain, that they would be introducing amongst themselves some of the worst features which unfortunately characterised American practice.

Mr. HUNT (Yeovil): The sting is in the latter part of the passage.

Mr. SPENCE BATE observed, all that was necessary was to take out the words "Transatlantic practice." It was not the intention of the Council to cast any reflection on the American profession generally, but only on the men who deserved it.

It was then agreed to omit from the report the words "Transatlantic practices," and the report thus amended was then agreed to.

The TREASURER (Mr. J. T. Browne-Mason) submitted the financial statement which appeared in our last number.

Mr. C. SPENCE BATE, in accordance with notice given, moved "that this Society shall henceforth be a Branch of the British Dental Association, and shall be denominated 'The Western Branch of the British Dental Association,' that the fee to those who are members of the British shall be 5s., instead of 10s. 6d., to the Western Counties Dental Association, and that the officers of the British and Midland Associations shall be *ex officio* members of this Association." When that Society commenced, the most sanguine of them thought that, if they were successful in bringing together at least Devon and Cornwall, they would be doing a very great thing. Since then they had annexed Somersetshire and Dorsetshire, and now Gloucestershire and Herefordshire were also anxious to join. The Society referred to in the resolution had the same objects as their own; they were both engaged in the same good work, and that was advancing the interests of Dentists, and he thought that they would see within a very few years the great stride that had been taken. He thought by joining themselves to the Central Association they were merely binding themselves into one great body to increase its influence.

Mr. A. SMITH seconded the resolution. When something of a similar character was brought forward at the last meeting, he was slightly inimical to the union with the Central Association on the terms proposed, but the present motion met with his entire approval.

Mr. SMITH TURNER wished to remove the misconception that the Central Association was a London Association; it was most distinctly a *British* Dental Association. It so happened that, for political purposes, a few of the office bearers must live in London. The Secretary, the President of the Executive Board, and the Treasurer must be in London, and the members of the Representative Board might be required to come to London occasionally, but it might be many years before the members were requested to go to London to attend a meeting.

The resolution was then adopted.

Mr. J. T. BROWNE-MASON remarked that the next business was to select a town for their next annual meeting, and as they were about to take in Gloucestershire and Herefordshire, he would suggest that the next annual meeting should be held at Cheltenham.

Mr. BALKWILL seconded the motion and it was adopted.

On the motion of Mr. T. C. PARSON, seconded by Mr. MALLET



(Exeter), Mr. RICHARD ROGERS was elected President of the Association for 1882.

Mr. R. ROGERS would have very great pleasure in filling the office they had chosen to elect him to. They had some very able men in Cheltenham, and he thought they would be able to give the Association a pleasant meeting. Before he sat down he moved "that Gloucestershire and Hereford be included in the Association."

Mr. SPENCE BATE seconded the motion, remarking the Association was gradually growing. If they only held together and kept to the resolutions they had passed, they would have an influence amongst the profession in the country which would be second to none.

The motion was agreed to.

Mr. SPENCE BATE proposed that Messrs. PALMER (Cheltenham), G. C. MCADAM (Hereford), and FOX (Gloucester), should be elected members of the Council in the place of Messrs. MAGOR (Penzance), TUCK (Truro), and GELDARD (Plymouth).

Mr. R. ROGERS seconded the proposition, and it was carried.

Mr. SPENCE BATE mentioned that the Council, in looking forward, recommended that the meeting after Cheltenham should take place at Yeovil. The object of the Council in so doing was to pay respect and a compliment to one of the oldest practitioners in the county—he meant Mr. Hunt, senior. Yeovil was a small place, but it had the advantage of being on the South Western Line, and would therefore accommodate those living in many distant and small towns who could not conveniently reach the Great Western Railway. It was suggested that Mr. Hunt, senior, should be asked to act as President for the year 1883.

Mr. BATE then moved that the Association should contribute £10 to the Legal Expenses Guarantee Fund.

This was seconded and agreed to.

Mr. PARKINSON then vacated the chair, which was taken by Mr. T. COOKE PARSON, who thanked the members for the honour they had conferred upon him, and promised to do the best he could to perform his duties to their satisfaction.

Mr. W. A. HUNT (Yeovil) moved a vote of thanks to the retiring President, Mr. G. T. Parkinson. They were all thankful to that gentleman for having undertaken the Presidency of the Association, and for the way in which he had discharged his duties.

Mr. SPENCE BATE seconded the proposition, and expressed on

behalf of a large number of members, their appreciation of the kindness they received from Mr. Parkinson at Bath last year.

The proposition was carried.

Mr. PARKINSON, in acknowledging the compliment paid him, said his Presidential office had given him an introduction to a great many of his professional brethren whom he should hope always to retain as his friends. He should do all he could to forward the interests of the Society.

Mr. SPENCE BATE reminded the meeting that the alteration of rules necessarily entailed an alteration of bye-laws. He suggested that the President and Vice-Presidents should be appointed a committee for the purpose of altering the bye-laws in conformity with the resolutions which had lately been passed, and he moved a resolution to that effect.

Mr. BROWNE MASON seconded the motion, and it was agreed to.

On the motion of Mr. PARKINSON, seconded by Mr. BALKWILL, Mr. W. V. MOORE was re-elected Secretary.

Mr. MOORE briefly acknowledged his re-election.

Messrs. E. Little (Bristol), G. C. McAdam (Hereford), W. J. Clark (Clifton), S. J. Hayman (Clifton) F. J. Hatton (Bristol), and R. M. Osborne (Newport, Mon.), were elected Members of the Association.

The meeting then adjourned to the President's house for luncheon.

The Members re-assembled at 3 p.m., to hear the President's Inaugural Address, which will be found at pp. 378-393 of the Journal for August 1st.

Mr. PARKINSON said after the eloquent and instructive address of the worthy President, they could not do less than offer him a vote of thanks for it, and for the hospitality with which he had entertained the Members of the Association.

Mr. C. GAINÉ (Bath), seconded the motion, observing he had been very much delighted and instructed by the address.

The motion was adopted.

The PRESIDENT in acknowledging the compliment paid him, said he should be very happy at any time to do anything he could for the benefit of the Association.

Mr. Charles A. HAYMAN then read his paper on "The Physiology and Pathology of Dental Caries." (See p. 396).

The PRESIDENT having invited discussion,

Mr. W. A. HUNT (Yeovil), remarked that Mr. Hayman had

adopted Mr. Tomes' views almost *in extenso*. He would fall in with those views to a large extent. He believed in the chemical theory rather than in the vital theory, but they were greatly indebted to the President for the able and comprehensive way in which he had put the whole question before them. To have two such long papers coming together on the same subject was somewhat unfortunate, but they had been privileged to hear both sides of the arguments, and they had had a great advantage in doing so.

Mr. BALKWILL stated that he communicated to Mr. Spence Bate the case referred to in the President's address, in which there was in the palatal fang a cavity containing pus completely isolated from the pulp cavity, but with a small opening on the periosteal surface.

Mr. SPENCE BATE thought the fungus theory had yet very much to be worked out before it could be accepted. It seemed a strange thing looking at the fungus as a fungus, how it could in any way destroy except by fermentation, and so acting chemically. They would find on the surface of every human tooth when it was first completed, a fine membrane. That membrane was generally brushed away with the brush in course of time, but sometimes they saw a green mucous layer over the tooth. That was nothing more than the death of that membrane. If that green mucus was allowed to stay, the surface of the enamel was destroyed, it was eaten away. He contended this was owing to the destruction of that little animal structure on the surface. His theory was that carbonic acid was evolved and acted on the lime of the teeth. He did not deny that fungus might get into a tooth and enlarge the path, but it was not the destroying agent. The more lime they found in a tooth, the more perfect that tooth was, and it was the absence of lime in a tooth which was one of the great symptoms of decay. He had intended to read a paper before the Congress to show that there was an alteration in the dentine of modern teeth from that of old well developed teeth. He disinterred a tooth from the grave of a Roman or British person. It was at least 2,000 years old. With a modern tooth he could with an ordinary saw make a very fair section, yet he was nearly two days cutting away before he could succeed with the old tooth. They did not find a tooth with that consistence and firmness at the present time. On putting the tooth under the microscope, he found there was a different structure in the dentine to that of the modern tooth, and from that he thought they might arrive at a conclusion as to one cause why decay was so rapid at the present time.

Mr. BALKWILL remarked the last speaker had stated that according to the proportion of lime in teeth they were more or less liable to decay. Had he based that observation on any facts?

Mr. SPENCE BATE referred Mr. Balkwill to his paper on the subject.

Mr. HAY (Bath) suggested that in a very large proportion of cases the disease arose in the first instance from mechanical pressure. This not only injured the enamel, but stopped the production and the nutrition of the dentine exposed to that pressure, and then any decomposing element sufficed to set up disease in dentine thus injured. He thought it should be a principle of treatment to remove lateral pressure by the timely removal of teeth that were crowded, and that under any circumstances where crowding exists a separation should be made; the acid which would otherwise destroy the teeth would then have healthy dentine to act upon, even if the enamel was removed.

The PRESIDENT said there were a few remarkable instances of internal decay which Mr. Hayman did not mention, but they had generally been the result of the death of the pulp. Still there were two or three cases of that kind, and certainly those cases could not possibly have been influenced in any way by fungi. Then they sometimes got cavities, formed by decay, filled up with food and with fungous growth, and yet the decay stopped. At one time the decay in the mouth had, perhaps, progressed very rapidly, and these cavities had been hollowed out; they got perfectly black inside, but although they were under the same local influences as before, such as fungus, acid debris, and food, yet the decay absolutely stopped, and that without any local action at all.

Mr. MALLETT (Exeter) said he could not too strongly impress on the fathers of families that it was a very important thing to look into the milk pail. During infancy the teeth were being formed, and if the little children were deprived of the elements of nutrition—whether by the milk being watered or by being supplied with bread from which all the phosphates had been extracted—it seemed to him that would account to a great extent for the bad state of teeth at the present time. He thought good milk, wholesome home-made bread, and cleanliness were the three great things to start a good set of teeth.

Mr. HAYMAN observed he was rather misunderstood as to the proportion in which lime salts entered into the composition of



a tooth, He meant to say the tooth should have just the exact proportion of lime salts as compared with organic matter, and any deviation from the proper proportion would be liable to produce decay.

Mr. R. ROGERS (Cheltenham) then read a paper on "the System of Professional Fees," which gave rise to an animated discussion.

Mr. A. B. VERRIER read a paper on "Continuous Gum Work."

The papers of Mr. W. V. Moore on "Treatment of Disease in the Dentine," and the President's on "Cohesive and Non-cohesive Gold Filling," were taken as read.

It was announced that Mr. Gartrell's paper on the "Injecting Process of Celluloid," was not ready.

The meeting then terminated.

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### THE DINNER

Was held in the evening at the Clifton Down Hotel. The President, Mr. T. C. Parson, occupied the chair, and Mr. G. T. Parkinson the vice-chair. Amongst the company were Doctors E. Long Fox, Brittan, Shingleton Smith, J. Walker, and Pigeon, Mr. D. Davies (Medical Officer of Health for Bristol), Mr. R. W. Coe, &c.

The PRESIDENT proposed the toast of "the Queen and the Royal Family," observing he was sure the sentiment would meet with a loyal reception.

The VICE-CHAIRMAN then proposed the "Army, Navy, and Volunteers," to which Captain Rogers (Cheltenham), replied.

Mr. SPENCE BATE in proposing the next toast, said every year the Council of the Association had considerable difficulty in selecting the best man to be President. They had very hard work to get a very excellent President at Bath. Mr. Parkinson was universally known for his modesty, but they overcame it. They next went to Bristol, and he was certain they would have their thanks for choosing the present President. They aimed to select one who was a gentleman by manner and education, one who by his geniality should be agreeable to the members, and one who by his practice and teaching they should be all proud to acknowledge, and they had chosen Mr. Parson, whose health he begged to propose.

The PRESIDENT in acknowledging the compliment paid him, said the prime object of the Western Counties Association at its out-

set was to create a good and generous feeling amongst the members of the Dental profession. Those who practised in large cities appreciated such gatherings as the present, and those who were situated in smaller towns equally welcomed them. By them opportunities were afforded for the interchange of new ideas, and the unfolding of experiences. This would be of the utmost benefit to young practitioners. In addition, the annual meetings would have the effect of enlightening public opinion in many ways, and this also would be most beneficial.

They had that day passed a resolution which provided they should in future be affiliated with the British Dental Association as the Western Branch. They believed that step would assist in the general welding together of the Dental body into a compact whole, and as far as the Western Branch was concerned, he was sure they should discharge their duties fully and faithfully, and assist to the utmost of their power in the grand work of renovation to which the British Dental Association was pledged.

Mr. A. SMITH proposed the British Medical Association, and said, the members of that Association had welcomed the Dental Association in a most cordial manner; and in a way which betokened at once their generosity, their appreciation of the difficulties with which the Dental profession had had to contend, and the consideration which they felt to be due to those who had yet to make their way in the world. He coupled with the toast the name of Mr. D. Davies, the President of the Bath and Bristol Branch of the British Medical Association.

Mr. D. DAVIES said, on behalf of his professional brethren, that he accepted with all gratitude the right hand of fellowship which the Dental had offered to the Medical Association, and he offered them the same in return. We could trace to a common ancestry both the Dental and Medical professions. They were both direct descendants of the village barber, and having such an honest pedigree, they ought not to quarrel. He thought the Dentists had been taking the right course. Their curriculum of education was a right one. They founded their profession upon a sound knowledge of anatomy and physiology, and upon that they were raising a speciality—one not like some specialities, he was sorry to say, in his own profession which had no *raison d'être*, but a real one. They were trying to take the right step to make their noble profession a nobler one, and the members of the Medical Association wished them “God speed.”

Dr. E. LONG FOX said he had the high honour of proposing the toast of the "British Dental Association." There were many points in which that Association touched the Medical Association. One of the objects of their Association was to educate its members upon very much the same line as Medical men had been educated, and on which they were now educating their Medical students. He was glad to say in the Bristol Medical School they boasted of a certain number of Dental students who had done them great honour. The Dental Association was substituting physiology for empiricism, and education for ignorance, and Medical men must wish them "God speed" in their efforts. The Dental Association had had some troubles at its birth, but was now showing its power, and he had no doubt its manhood would be exceedingly strong. For the originating, organising, and fostering of such an Association were required high qualities, courage, patience, self-denial, self-reliance, and high professional feeling, and a wisdom of no ordinary kind. Such qualities were found in few men, but he was glad to know for the present, and for the future, of the Association they had been found, and he trusted they would be found for many a long year in the gentleman whose name he had the honour of coupling with the toast—Mr. James Smith Turner.

Mr. James SMITH TURNER in reply said he had no doubt when the proposal of the Western Counties Association to become a branch of the Dental Association was laid before the Representative Board of the Association, it would be received with extreme satisfaction. He would not enlarge on that point. They knew the Association required all the help and support it could get from the associations in the country; and the accession of strength brought by the affiliation of the Western Counties Association would be no small gain. Proceeding to speak of the objects of the Dental Association, he said its objects were the bringing together of members of the Dental profession, the diffusion of scientific knowledge, and the carrying out of the provisions of the Dental Act.

The provisions of the Dental Act were that every dentist must be registered, and that in future no dentist should be registered except after passing through a curriculum and an examination. Now that curriculum was very nearly akin to that of the surgeon. It cost more money and it cost more time. To a certain point they followed the curriculum of the medical man, but then they diverged to the speciality which enabled them to perform their

duty to the public in the way in which the public had a right to expect them to do. In order to do this they forewent the honour of being Members of the College of Surgeons, and Licentiates of the College of Physicians, and contented themselves with being Licentiates in Dental Surgery. But he wanted to let the medical profession know that they did not despise education, and that they strove to be as near them as could be. Though they did not take the Membership of the College of Surgeons, or become Licentiates of the College of Physicians, it was not because they did not recognise the importance of these diplomas, but because to take them would be too great a tax upon their time at that period of their lives when their time became valuable. The Licentiateship in Dental Surgery was established after mature consideration by the leading Members of the Royal College of Surgeons. So plainly did it appear to them that no arrangement of surgical teaching could teach dentistry that at last they admitted that if there were any *raison d'être* for a speciality in this world, it was for the speciality of dentistry. Any man who had passed through the curriculum of the College knew very well that in it he could learn everything that an ophthalmic surgeon need know, and everything that an aurist or a specialist in skin diseases need know, but he (the speaker) appealed to any gentleman present who had gone through the curriculum for Membership of the College, if he ever learned anything that qualified him to be a thorough good dentist, or even half a dentist. The answer would be "no," and it was the recognition of this fact that induced the College of Surgeons to establish the Dental diploma. In carrying out the Dentists Act, they endeavoured to see that no one entered the profession now unless he possessed the license of either the Royal College of Surgeons of England, the Royal College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, or the Royal College of Surgeons of Ireland. That was the great object at the present time of the British Dental Association. The minor objects were questions which belonged more or less to themselves, but the question he had dilated upon appealed to the whole medical profession, and it was extremely gratifying to him to hear such a remark made, as that the time might come when the dentists would be admitted as Members of the British Medical Association. At the present time they were being recognised in a way in which they had never been before. They had a section at the Medical



Congress, and they had received great help from the British Medical Association, when they were drawing out their Articles of Association for the approval of the Board of Trade.

It was a wide and difficult task they had still before them, and it was because the task was difficult and extensive they valued so much the accretion of strength which they had had that day by the accession of the Western Counties Branch.

Dr. BRITTAN proposed "Success and Prosperity to the Western Counties Dental Association." He had derived great pleasure from what he had heard that evening respecting the Dental Association of England. It was qualified in every way to be an efficient profession. Members of the Medical profession would know in future that when they met a Member of the Western Counties Dental Association they were meeting a man of culture and education, and one who was competent to afford to them and to their patients all the skill in his particular branch that he could possibly give. He most cordially wished the Association success. In conclusion he coupled with the toast the health of Mr. J. T. Browne-Mason, who had most efficiently served the Association as its Treasurer.

Mr. BROWNE-MASON, in response, said when his friend, Mr. Spence Bate, suggested to him the starting of the Association, neither of them thought their modest little scheme, which might possibly embrace Devon and Cornwall, would swell out into Somersetshire, Dorsetshire, Herefordshire, and Gloucestershire, and have ramifications even in South Wales. It was very gratifying to them that their efforts were so seconded by their *confrères*. He hoped they might go on and prosper as a branch of the great society, and that when they all met together at Cheltenham they would have as successful a meeting as they had had in Bristol. He could not sit down without giving, on behalf of the Western Counties Association, their hearty thanks to the President for all that he had done for them. He felt sure the great success of the meeting that day had been entirely due to the unwearied exertions of Mr. Parson.

Mr. James PARKINSON (London) submitted the toast of the "Midland Counties Branch of the British Dental Association." He did not want to say anything disparaging of the Western Counties Association, but still they hesitated a long time before they joined the Dental Association, whereas the Midland Branch at once accepted the invitation to connect themselves with it.

Mr. W. H. WAITE, the Secretary of the Midland Branch, replied. He regretted the absence of his friend, Mr. Campion, and then congratulated the members of the Western Counties Association on the step they had taken that day in allying themselves with the British Dental Association. He hoped as these branches became consolidated there would grow up between them a healthy and an honourable rivalry in everything that would conduce to the welfare of the public and the good of the profession.

Mr. SPENCE BATE proposed a vote of thanks to the Faculty of the British Medical School for the loan of their building.

Dr. SHINGLETON SMITH replied, and said he could only regret the Bristol Medical School was not in a position to offer them better accommodation than that which they had had that day. The building was only a temporary one, and he hoped that on any future occasion he should be able to offer them better quarters.

Mr. D. DAVIES submitted the "Press."

Dr. WALKER responded, and said he had a long programme to read to them about the work that was done in London with regard to the Journal of the Association, its objects, how it was managed, and how his hearers could assist it, but at that late hour all he would say was that the Dental Association was glad the Western Branch had connected itself with it. He was glad because that accession would materially strengthen their interest in the journal work; they would carry it on with much more spirit and energy now they would have eighty more friends to send it to every month.

Mr. W. V. MOORE, in the course of a few remarks, hoped the Western Counties Association would go on prosperously and successfully.

Mr. SPENCE BATE gave the "Health of the Visitors."

Mr. R. W. COE replied: It gave him great pleasure to find that the dentists, who were so nearly allied to the medical men, were working in the same lines as they were. He thought that in a very short time they would obtain the same kind of recognition that the medical profession had obtained.

This concluded the list of toasts, and the company soon afterwards separated.

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### The General Medical Council.

At a meeting of the Executive Committee, held on July 28th, a letter was read which had been addressed by Mr. J. S. Turner to

the Registrar, requesting him to place before the Council the opinion of Sir John Holker and Messrs. Wright & Fitzgerald, which was published in the last number of the *Journal*. This having been read, the Committee passed the following resolution—

*Resolved* :—That the Committee acknowledge the receipt of the foregoing Communication, and inform Mr. Turner that, in the opinion of the Committee, the steps requisite to be taken to try the correctness of the course taken by the General Council, under the advice laid before it, rests with the Dental Association, and not, as suggested in the opinion now forwarded, by the removal of a name which, in the judgment of the Council, is registered in conformity with law.”

It should be remarked that this is only the opinion of the *Committee*. The matter has still to come before the full Council, and it remains to be seen whether that body may not be disposed to take what we consider to be a juster view of the nature of their obligations.

## The Study of Dental Surgery, and the Means Thereto.

*Abstract of a Paper read before Section XII. of the International Medical Congress, August 5th, 1881,*

By JOHN TÖMES, F.R.S., L.D.S.E. &c., M.R.C.S.ENG.

DENTAL Surgery has within the present century, by the full consent both of the medical and general public, developed into a well-defined speciality. The medical practitioner refers all dental cases to a dentist where one is at hand, and the general public select him as the fittest to help them in all cases of dental trouble. No apology, therefore, need be offered for the separate practice of Dental Surgery, neither need arguments be put forward in support of its continuance as a distinct branch of surgical practice. The necessities of society on the one hand and the technical requirements of the dentist on the other hand, have determined the condition of separateness. But this great international meeting affords a fitting occasion to enquire how the accepted condition can for the future be met, so that the public may be best served, for therein rests the

sole cause for our presence, either as special or indeed as any kind of practitioners whatever.

Utility alone is the excuse for the dentist's existence, and the full recognition of this fact brings us to the question of how and by what available means he can become most useful? How he can best fulfil the trust imposed on him as a specialist, bearing in mind that on account of his supposed superior special knowledge, he is consulted, and thus assents to the belief that the dentist is far more capable than the general surgeon in the treatment of dental ailments. Clearly his honour—nay, even his integrity—is pledged to render himself in the highest degree capable of discharging to the fullest the freely-accepted duties. In admitting the social necessity for the presence of the special practitioner, the need for his special education is conceded, and it is to the wide question of what should be the education of the dental practitioner, for the determination and the development of which, we, as practitioners and teachers, are responsible, that I would call the attention of the meeting.

Before proceeding further, however, let me state that I wish it to be understood that all I have to say upon the subject of dental education, applies only to those who have yet to be educated, and to those who possess neither unusual fitness nor unfitness for the pursuit of dental studies. And furthermore I desire to state that any opinions I may express as to what can and should be done, are intended to apply only to education in England. It will be for the representatives of other nationalities, to tell us what system of education is most applicable and suitable in their respective countries.

In the first and second decades of the present century, dental practitioners were few in number, and for the most part, but not in all cases, members of the medical profession, who at the onset of practice had but a slender knowledge of the duties of the dental surgeon even as they were then understood, or at best they had such an amount of knowledge only as the accident of a good or



bad private instructor might impart, in all constructive matters depending from the first upon the assistance of dental mechanists. Other persons commenced their career as young men or boys in the laboratory of a dental practitioner, acquiring therein in the course of an apprenticeship extending over five or even seven years, great manual skill, but whose claim to surgical knowledge at the expiration of pupilage, could not be sustained. Yet from this class of persons some of the most distinguished practitioners of the last generation were derived. The one spent those years, when to learn is easy and authority in the teacher is effective, in the acquisition of manual skill; the other in the acquisition of medical, I will not say surgical knowledge, in the strict meaning of the term surgical. Hence it was that practice was approached from two wholly different sides, and resulted in the production of practitioners of two distinct classes; one competent to advise, the other competent to treat, but neither fully competent both to say what should be done and to do it effectively.

Towards the end of the second decade dentists began to increase in number, and each year up to the middle of the century brought new candidates for practice, the vast majority of whom came directly from the dental laboratory, and were, for the most part, inferior in general education to the surgeon, in whose medical knowledge they had no share. Out of this educational difference arose an interprofessional division, not to say jealousy, in which society took but little interest, each person selecting for himself a practitioner from whom he hoped to secure all the advantages that treatment could effect, and the choice as often fell upon the unqualified as upon the surgically qualified practitioner. Among the more intelligent practitioners it came to be freely admitted that dental education, from its one-sided character, was in a very unsatisfactory condition; and after some few years of discussion the opinion was generally accepted that the general and special portion of the dental training should

go on simultaneously; so that both manipulative skill and surgical knowledge should be acquired in the days of our youth, when the power to acquire is at its best, and at the only time, indeed, when a high degree of manipulative skill can be acquired.

A consensus of opinion as to requirements having been obtained, effectual action soon followed.

But we were not the first to recognise the necessity of a systematic dental education. Our American brothers had not only felt but provided for the need in the organisation of dental colleges; and we, in following in their footsteps, and profiting by their experience, accepted an obligation which should at all times be freely acknowledged.

The history of the organisation of the past and present dental colleges of America has been published in "The History of Dental and Oral Science in America," 1876. From this and from Dr. Eliot's address, delivered before the American Academy of Dental Science, 1879, and from the prospectuses of the American dental colleges, I shall take such facts, as should be stated in acknowledgment of the work of our predecessors, and of those differences of method or requirements in education, which differences of attendant social or national opinions have rendered desirable or necessary.

In order to arrive at a full understanding of the constitution of the American dental colleges, it will be desirable to refer very briefly to the state of medical education and of medical colleges, upon the lines of which the dental schools were, to a certain extent, of necessity drawn. For this information I am wholly indebted to the "Special Report upon Medical Education and Medical Institutions in the United States of America, 1776-1876," prepared for the United States Bureau of Education by N. S. Davis, A.M., M.D., and to the address on "The Relations of the Medical Profession to the State," by D. B. St. John Rosa, M.D., 1879.

In early days Scotch graduates, settled in America, organised a university drawn after the northern model,

but it was soon found that educational demands upon the student, readily met in Scotland, were altogether beyond the powers of the youth of a newly settled country.

Hence, to avoid failure, the standard had to be lowered in favour of private pupilage. After the War of Independence, according to Dr. Davis, universities or colleges sprung up in the several States, subject only to the dormant control of the legislature of the State in which they were situated, and from which they derived their corporate powers. Neither the dominant feeling of the country in favour of individual liberty, or the multiplication of licensing bodies, tended to arrest the gradual lowering of the terms upon which the doctorate in medicine could be obtained, and "the fact," says Dr. Rosa, "that the degrees conferred by the colleges became practically recognised throughout the whole country as a sufficient license to practise medicine in all its branches," gave the student an opportunity of obtaining a degree wherever it was granted upon the most convenient or easiest terms; fully justifying the complaint of the president of the Medical Society of New York, in speaking of medical colleges, to the effect that "the present necessary laxity in admissions and in final examination, fairly overwhelms the land with physicians, many of whom are only so by title." This is but describing a state of things that existed in our own country at no pre-historic time, against which great effort had to be made before it was brought within control, and practically to an end. Its bearing upon our subject is important in so far only as it no doubt influenced the institution and constitution of dental colleges in America, created in 1840 and afterwards.

The distinguished president of Harvard University, Dr. Eliot, in his admirable address on "Dental Education," divided the subjects which constitute the fitting education of the dental surgeon into those which are peculiar to the general and to the special surgeon, and those which are common to both. The general he estimates as three-fifths, and the special subjects as constituting two-fifths of the

whole education; and there will be few dissentients to this division. Keeping Dr. Eliot's estimate in mind, but that the medical degree was given and taken on such easy terms, it would have been difficult from our standpoint to understand how it was that so many of the dental colleges from the first undertook to educate their students in medicine and surgery, in the presence of schools devoted to these subjects, furnished with all the multitudinous appliances necessary for success in teaching, and with teachers of experience and distinction; and with the further evil of withdrawing the dental student from advantageous association with the general student in the study of subjects common to general and dental surgery. The separation of the students by this limitation to a special school, engendered a distinction of social position to the obvious disadvantage of the dental practitioner, whose pretention to the necessary amount of medical or surgical knowledge would be challenged by those who had studied under more favourable circumstances and under the guidance of established teachers. For however little professional education may be forced upon the individual student, there has never been a time when a diligent and determined student could not acquire a competent knowledge of his profession in the medical schools of America or of our own country.

Even a casual study of the organisation of the American dental colleges, leads to the inevitable impression that the Americans were, and indeed still are, strongly and rightly impressed with the absolute need of thorough training; and although not in a position to enforce the acceptance, yet felt bound to offer to students every inducement to acquire a sound knowledge of the special subjects, and of the requisite manipulative skill. The general subjects appear to have received less attention, or, at all events, occupied in the college prospectus a less prominent position. In some cases, indeed, it would almost seem that a college faculty thought that a sufficient knowledge of general surgery could be acquired in the study of the special subjects of dental surgery.



It was, however, felt in this country that the prevailing medical education was, as a question of degrees, not in excess of what should be required of the dentist; but that while it fell short to the extent of two-fifths of the whole in the direction of strictly dental knowledge, it exceeded by two-fifths in special medical knowledge, the amount which could be reasonably asked of well-educated dental practitioners. This opinion was fully expressed in a memorial, addressed to the English College of Surgeons, in the following terms: "The memorialists do not suggest an education and examination *inferior* to that required of the medical practitioner; but propose a certain difference in *kind* only, not a difference in *degree*—an education and examination specially adapted to the requirements of the dental surgeon, as distinguished from that fitted for the general surgeon."

The value of the foregoing paragraph has not been fully or rightly estimated either here or elsewhere. Equality of education, professional or other, does not necessitate identity. A parson, a lawyer, and a doctor, may be equally well educated. The degree of education may be the same in all, but some of the subjects embraced in each profession will be different. So it may be with a dentist and a doctor, the degree of culture may be equal, but in part the subjects of study will be different.

It has been urged that dental should come as supplemental to medical knowledge, that the practitioner should be a medical man first and a dentist afterwards. This opinion might be sustained if the position were reversed—a dentist first and doctor afterwards—provided all students, or even the majority, were sufficiently rich in money and time to extend the educational period from four to six years, or from three to four and a half, a condition of things which obtains neither here nor, according to Dr. Eliot, in America.

Four years are allotted to the study of medicine, and the medical student has not an hour to spare for any other subject, hence it becomes needful to determine what sub-

jects in the medical curriculum can be lessened in extent or wholly omitted, so as to find time within the same four years for the effective study of dental surgery as a science and practice. This problem has not, perhaps, been wholly solved, but as the latest organisers of a complete scheme of compulsory dental education, it is hoped we may claim to have provided the most complete curriculum hitherto brought into a national use. The details of this were determined by a committee of the Medical Council, consisting of the representatives thereon of the medical authorities which, under the Dentists Act, grant dental qualifications, the twenty years' experience of the College of Surgeons of England being placed at their disposal. They reported in favour of, and the Council adopted without material variation, the curriculum originated by the aforesaid College. The unconditional insistence upon an attested preliminary education before a person is allowed to commence his professional studies, is a feature of great importance in the existing regulations, inasmuch as it ensures to the student an amount of knowledge and of mental training which renders him competent to understand without difficulty the language of science, and to follow with comparative ease the methods of scientific instruction and investigation. Before this great educational step was taken, pupils not uncommonly entered upon their professional studies so poorly informed that much time was lost in the attendance upon lectures which they but very imperfectly understood, and consequently, at the outset several lectures had to be delivered for the purpose of general instruction, and thus of preparing the student to take advantage of the subsequent course, rather than of imparting available medical knowledge. Much has been said against the vast number of lectures students have been required to attend, and especially against repetitions, and the objection is no doubt valid now that preliminary education is enforced, and the students thereby enabled to learn as much from one course as they formerly did from two courses. There may be difference of practice, but

there can be no difference of opinion here or elsewhere as to the advantage to the student of an attested preliminary education.

Before entering upon the consideration of the instruction common to a medical and dental education, I will quote a few sentences from an "Address on the Study of Physiology," by Dr. T. M. Purser, and ask you to read therein "Dental Surgery for Medicine :—

"I have said, your business here is to learn Medicine; and you learn the other subjects only as stepping stones to this; you do not come here to be made anatomists, or chemists, or physiologists. If you want to be an anatomist, you must give your life to it; and so of the other sciences. But you learn those parts of these sciences which are essential, in order that you may take the next step safely; so much anatomy, physics, and chemistry, as are essential for physiology; and so much physiology as is essential for medicine, of which you should know all that is known."\*

I will venture also to bring to your notice the following relevant paragraphs from the address of Dr. Michael Foster, in which he contends that topographical anatomy, which has hitherto been studied in some part as a mere mental training, should now to a certain extent give way in favour of a more complete knowledge of physiology. He says: "The details of topographical anatomy have the peculiar feature that, although they can only be learned with infinite pains and labour, unlike other things hard to learn, they vanish and flee away with the greatest ease. I would confidently appeal to any audience of practical men, how much of the huge mass of minute facts, which in their youth they gathered with so much toil, remained fresh in their minds two years after they passed the portals of the college; how much now remains to them beyond a general view of the parts of the human frame, and a somewhat more special knowledge of particular regions, their acquaintance with

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\* *British Medical Journal*, November 13, 1880.

which has been maintained by more or less frequent operations. I would confidently ask them what is the ratio, in terms of money or any other value, which the time spent in those early anatomical struggles—say over the details of the forearm—bears to the amount of that knowledge remaining after twenty, or ten, or even five years of active practice, or to the actual use to which that knowledge has been put.”

Dr. Burdon-Sanderson, in his introductory lecture, says:—“The precious years which immediately precede a man’s entry on professional duty, are far too valuable to be wasted in learning anything he does not intend to retain.”\*

If we keep in mind these lately expressed and published opinions of these distinguished teachers, we shall be qualified to form a just estimate of the value of the current dental curriculum, regarded as a training in the principles of medicine, and of its relations to the current medical curriculum. Without substantial difference there are some slight variations in the divisions, and even in the designations of the lectures required by the several surgical colleges. On this account it will be convenient in making a comparison to take the respective courses of study of the English college; and the more so as its dental curriculum has been in successful operation for the best part of twenty years.

If, then, we refer to the tabulated statement given at p. 293 of the June number of this Journal, it will be seen that the dental student is required to attend one winter (six months’) course of lectures on anatomy in a recognised medical school, and a second like course, or in lieu thereof a course on the head and neck. He is required to have dissected for nine months, in other words, during a winter and a summer session. The medical student on the other hand must attend with no alternative two winter sessions of anatomical lectures, and

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\* *British Medical Journal*, October 9, 1880.



dissect during two winter sessions, or twelve months. In fact, the dental student is relieved of part of one course of lectures, and of three months' dissection. But if any credit is to be given to the opinions I have quoted, enough, surely, remains for the education even of the medical, and certainly of the dental student. We know quite well, the knowledge of a subject got up merely for the purposes of a pass will not be retained, and who will contend that a minute knowledge of the anatomy of the foot will be of sufficient practical worth to the dentist to be retained in his memory, and if not to be retained, then precious time, Dr. Burdon-Sanderson says, should not be wasted in its acquisition. That which is true of the foot, is true also of the minute anatomy of many other parts of the body, with the treatment of which in disease the dental surgeon is not either directly or indirectly concerned.

A winter six months' course of lectures on physiology is required alike of each, but the dental student is excused the thirty lectures, or meetings of the class, on practical physiology which are compulsory on the medical student. He will do well to decline this exemption; for a full knowledge of physiology is equally required for the intelligent practice of any and each branch of surgery. It is of all subjects the most interesting, and time cannot be misspent by any manner of student in its study; neither need we fear that the knowledge of physiology will be lost either to ourselves or those who may ask our services. The attendance upon one course of lectures upon surgery during one winter session is required in each curriculum, but the attendance upon a six months' course of practical surgery is not required of the dental student.

A course of lectures upon chemistry and a three months' course upon practical chemistry is required in each curriculum, and in like manner a course upon *materia medica*, and also upon the practice of medicine.

A course of lectures upon forensic medicine, midwifery, pathology, practical pharmacy, and vaccination are replaced by other subjects in the dental curriculum.

We now come to attendance upon the practice of a general hospital. The medical student attends the surgical practice during three winter and two summer sessions, while the dental student attends during two winter sessions. The former is required to attend clinical lectures on surgery for two winter and two summer courses, but two winter courses only are required of the latter. And here the pupilage of the dental student at a medical school and general hospital ends. He is not required to attend the six months' dressership, the post mortem demonstrations, the practice of medicine and clinical medicine of the medical curriculum. But omitting these, can it be said with any show of truth, that the dental student has not had ample opportunities of acquiring a sound knowledge of the principles and practice of surgery, and if in the individual case that knowledge has not been acquired, it will be for the surgical section of the Board of Examiners to refuse the qualification of which they, with the dental section, are the constituted guardians of the public interest.

The all important special subjects compressed in the dental curriculum now claim our attention. In these the medical student takes no part, while it is by the exercise of them, under the direction of his general medical knowledge, that the dentist takes and holds his place in society.

The conditions imposed upon dental students are, that he shall, subsequent to his having passed the preliminary examination in general knowledge common to the dental and medical student, have devoted four years to the acquirement of professional knowledge; have been engaged during a term of three years in the acquirement of a practical knowledge of clinical dentistry under a competent instructor; have attended and taken part in the dental practice of a recognised dental hospital, or the dental department of a recognised general hospital, during a period of two years; have attended two courses, or not less than twenty-four lectures on dental anatomy and physiology, human and comparative; two courses, or not less than twenty lectures on dental surgery, and not less

than twelve lectures on metallurgy, and a like course on mechanical dentistry.

These then are the subjects and conditions which take the place of those remitted from the medical curriculum, and who can justly say they do not impose a tax equal to the remission, upon the intelligence, the industry, and the time of the student. It may indeed be contended that a greater load is imposed, for it is the opinion of those engaged in instruction, and of those recently instructed, that nothing can be remitted from the special division of the curriculum. The hospital attendance must be exacted almost day by day during the two specified years, in order to attain adequate manipulative skill, without which the practitioner would be as the musician who cannot play, the artist who cannot draw, the sculptor who cannot use the modelling tool or the chisel, or the dental critic who should be able to surpass but cannot equal, the work he condemns in others. It is one thing to know the scientific principles of the art, but it is quite another to carry them into effect. This requires an amount of manipulative power, which can only be attained by long and careful practice under a competent instructor. The fingers must become unconsciously obedient to the will, they must follow it automatically as the fingers of the skilled pianofortist execute the mental reading of the work he is playing, or as the hand of the sculptor produces the form the mind has conceived. Short of this unbidden obedience of hand, the performer would be but an amateur, and his professional life one long apology.

It will be admitted by all that skill of hand can be attained only by long practice, and few will contend that one time is as good as another for the training. Mr. Fawcett has told us that the blind may be taught a bread-winning trade in their youth, but that adults who have lost their sight cannot acquire sufficient skill to secure independence. We know that successful musicians and artists commence their studies in youth, and have given promise of power before they have attained to manhood.

If we turn to the artizan class it will be found that he who fails to acquire skill of hand during his apprenticeship, seldom attains to excellence afterwards. There is no reasonable ground for doubting that the hand in youth develops anatomically in the direction of its exercise, and acquires thereby a power in that exercise to which the adult hand seldom attains. These facts have an important bearing upon the question of the time at which the dental student should proceed with his practical education, for the skill needed by the dentist is inferior to none of these. The results of professional examinations fully establish the fact, that the medical and dental curriculum cannot be honestly fulfilled in the same four years. Yet it has been said that the practitioner should be a surgeon first, and a dentist afterwards, or in other words, the entrance upon the special division of the dental curriculum, should be delayed until the surgical education is completed, thus deferring the manipulative training to a period when the attainment of excellence is difficult, and in its highest degree, perhaps impossible. To devote the days of our youth to the acquisition of knowledge we do not intend to increase, to the exclusion of the knowledge by the exercise of which we propose to gain our bread, would be, I contend, a great error, and the more so, as the remitted portions of the medical curriculum can, if desired, be taken up when the dental education is completed.

My strong advocacy of special, must not be interpreted as indifference to medical, qualifications. I would give every possible encouragement to the attainment of the latter, not, however, as a substitute for, but as a supplement to the dental degree. Educationally, the relations of the membership to the dental license may be regarded in the same light as the relation of the fellowship to the membership are regarded. This view will indeed take effect in certain appointments. In many of our hospitals, although the membership of the College of Surgeons is a full qualification, the governing body require that their surgical officers shall be Fellows of the College. When-



ever the Fellowship of his College is required of a candidate—provided the Fellowship implies a higher degree of professional knowledge than the Membership—it may justly be required of the dental candidate for office that he shall possess the Membership in addition to the dental license of his College.

The profession at large must be congratulated upon the recent determination to enter in the Dentists' Register surgical degrees as additional qualifications. It may be said that this should have been done from the first, but those who have practical experience in bringing an Act into full operation, know quite well that success requires patience, perseverance, and last, but not least, forbearance.

Upon the question of examinations and examiners I need say little. The former will, in their character, follow the lead of medical examinations, and it is provided in the Dentists Act that should the conjoint scheme come into operation in medical, it will do so also in dental examinations.

The examiners are the guardians, on the part of the public, against incompetence, and should, as a matter of course, be independent of the pecuniary success of the schools, and collectively irresponsible for the professional instruction of the persons they are called upon to examine.

In reviewing the task imposed on the student, it may be asked whether I have not overstated the amount of special training needed to ensure the acquisition of the necessary manipulative power. I would answer, No, with all the emphasis of which I am capable. For I contend that a high degree of skill of hand is absolutely necessary to professional competence—that competence is necessary to self-respect—and that self-respect is necessary to that professional rectitude, without which personal comfort in practice would be imperilled, and professional status would be but a shallow fiction.

Furthermore, that with the existing opportunities a high degree of skill can be gained by perseverance and due expenditure of time in pupilage, and that it is the bounden

duty of the teacher to press, and for an examiner to demand, its possession.

Such, then, are the lines upon which the study of dental surgery have been drawn—so drawn as to secure adequate knowledge and skill in the practitioner—and with the view, therefore, to a certain difference in *kind*, but to equality in *degree*, between the compulsory education of the medical and of the dental practitioner.

If in this imperfect sketch I have entered at certain points too far into detail, or occupied too much time in their description, extenuation for my proclivity may be pleaded on the score of the high degree of satisfaction, not to say pardonable pride, which the surviving members of my generation feel in seeing an educational scheme, in the origination of which they took part, completed, and rendered national, and a calling heretofore of undefined position, elevated by the legislature to the rank of a learned profession.

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### International Medical Congress.

The proceedings of Section XII. (Diseases of the Teeth), opened at 3 p.m. on Wednesday, the 3rd inst., with the following Address from the President, Mr. E. Saunders.

GENTLEMEN,—Before assuming the duties and responsibilities of President of the Odontological Section of this great Congress, permit me to thank you for the honour you have conferred upon me in electing me to that high office; and let me assure you that it will be my earnest endeavour to justify your choice, however I may fail to satisfy my own, and your, well-warranted expectations. And, indeed, were it not that I am sustained by the kind co-operation of two Vice-Presidents and a Secretary, in whom our profession feels a just and legitimate pride, I might well feel oppressed by the onus of doing full justice to the position on so august an occasion. Nor was it, I am free to admit, until I had the permission of the Executive Committee

to call around me, as a Council, some old and tried associates in professional work, that I began to experience the requisite energy and confidence. And having made this personal avowal and confession, I turn to the distinguished company before me, who have done us the high honour to visit our too great, but not too gay, capital, and to become for a short time, and for our signal profit, our guests at this great intellectual banquet.

Et à vous, Messieurs les Etrangers, je désire, au nom des Membres Anglais du Congrès, au nom de notre plus grande Société, La Société Odontologique de la Grande Bretagne, au nom de la profession même en Angleterre, vous souhaiter la bien-venue. Croyez, Messieurs, que nous sommes très sensibles de l'honneur que vous nous avez fait en visitant à ce moment notre trop grande, mais pas trop gaie ville de Londres, et croyez que c'est notre désir de vous rendre la visite, à une fois, agréable et fructueuse.

Permit me, gentlemen, on behalf of the English Members of the Congress, on behalf of our largest Society, the Odontological Society of Great Britain, now in the 25th year of its somewhat chequered, but, on the whole, prosperous existence, and on behalf of the whole body of the Dental Profession in England, to offer you a hearty welcome, and to assure you of our earnest desire to render your too brief visit both profitable and pleasant. We hail the happy occasion of our friendly intercourse, and we trust that friendships begun under such benign auspices may continue and progress in interest through many prosperous years. Such gatherings as these, with the pleasurable amenities they involve, do much to soften and refine the manners, to quicken the intellect of all concerned, and to remove misconceptions of national or individual character, which are apt to be engendered by isolation and want of friendly intercourse. Congresses, such as that at which it is our privilege at this time to assist, serve a great social purpose apart from the intellectual and scientific aims at which they are more immediately directed. It is much that they afford an

opportunity and a stimulus for intellectual effort, which might otherwise, with man's proverbial procrastination, never be called into action. But in these days of an ever-teeming press, and of facilities for the free intercommunication of ideas, this is subordinate to the advantage of personal knowledge of the individual, and the living interchange of thought. The modern Congress, which seems now in high favour, owes its existence, or shall it not be said, its revival to the intellectual activity, joined with a wide eclecticism, which is a characteristic of our times, and which seeks to assimilate to itself whatever is of value in the past or in other lands, whether in social manners and customs, in matters of dress and daily life, in schools of architecture, or in the realms of science or art. The generally accepted idea of a Congress is, if I mistake not, more than a fortuitous assembly of persons engaged in similar pursuits and drawn together by community of thought and interest. It is the deliberate coming together of distinguished men or of experts, of set purpose and for a specific object; the persons constituting the Congress being invited and selected with a due regard to their knowledge of the subject, for the consideration of which it has been convoked. This is especially evident in political affairs, and notably in a recent instance in a northern capital, where the great countries of Europe, represented by their most distinguished statesmen and diplomatists, met in solemn conclave for the rectification of national frontier lines, and for the determination of other questions of vital importance which must otherwise have been left to the rude arbitrament of the sword. And may we not indulge the hope, in the interests of an enlightened humanity, that this high function may be more extensively employed to interfere between the unbridled ambition and lawless rapacity of States, more powerful than just, and the resolute resistance to subjugation or spoliation on the part of the oppressed, protracted, it may be, to the bitter end through years of carnage and misery? So might the world be spared the saddening spectacle of



“man’s inhumanity to man,” and the fair page of contemporary history be unsullied by the foul blot of the blood-stained record. Ours, however, is a Congress of peace, and we are happily not called upon to compose animosities or to adjudicate upon conflicting claims. The triumphs which we are met to celebrate are those of man’s skill in limiting and repairing the ravages of disease; our victories those over nature herself, when she is forced to yield up another of her secrets as the reward of patient research or of well-conducted experiment. Our international reunion may be regarded as a periodical taking stock of the gains of science, of improved appliances, of more accurate means of diagnosis, and of more efficient modes of treatment in the various departments of medical practice. And for the better and fuller carrying out of this intention, it has been found advisable, having regard to the present advanced state of medical and surgical science, to divide the work of the Congress into sections.

These sections carrying on their work simultaneously, and the work of each section being complete in itself, greater fulness and accuracy of detail are secured without any sacrifice of the unity of the one grand result, as the work of each section is the necessary complement of the whole. In that with which we are more immediately concerned, one of the youngest departments of surgical practice, and which for the first time enjoys its own distinct and prominent position, considerable interest will attach to the question of education and the regulations which in each country govern the entrance into the profession. The former part of this very important subject will, I trust, shortly be brought under the notice of the Congress by one than whom none is at once more fully informed, and more entitled to speak with authority, I mean Mr. John Tomes, who has in this direction during the last quarter of a century done much to advance the interests, and to establish a strong claim on the gratitude of the profession. Nor would the English sense of justice and fair play be satisfied without an acknowledgment of

the more recent services of his colleague in this good and great work, Mr. James Smith Turner, without whose unsparing devotion of time and energy it could not have been brought to so successful an issue. To the joint action of these two gentlemen; to the lawyer-like precision and forethought of the former, no less than to the vigilance and promptitude of the latter, is the profession indebted for that invaluable piece of legislation, the Dentists' Act of 1878. It must not be forgotten, however, that to our foreign friends, the nature of the enactment is of greater interest than the means or the persons by whom it was obtained. By the provisions of this Act then, which came into operation on August 1st, 1879, it is forbidden to any one, to use the word Dentist, Dental Practitioner, or other title implying that he is qualified to practise Dental Surgery, unless his name appears on the Register of that body; thus giving to the Dentist the same protection and privileges as are enjoyed by the Physician and Surgeon in this and other countries. By this measure the opprobrium was removed which so long rested on the Dental Profession in this country, that it included a large proportion of ill-qualified practitioners, and in many cases persons who were unsuccessful in other pursuits, and who were attracted to it by the absence of restrictions or of preliminary examination. By the provisions of this Act, introduced by Sir John Lubbock, not only are the public preserved from the extortion and malpraxis of the ignorant and unprincipled, but a grave discouragement is removed from the educated and honest practitioner. For it is only in human nature that high aims and honest zealous work should languish in the atmosphere of indifference and lack of appreciation. In thus obtaining legal sanction for the organization of the profession it was desired strictly to maintain its connexion with the Royal College of Surgeons, as it was rightly felt that separation from that body would involve abdication of the status which it had hitherto enjoyed. And when the college had been memorialised on the subject, shewing that

the curriculum for the diploma for general surgery, which was the only qualification then open to him, did not comprise certain matters of the first importance to the Dental practitioner, that, in fact, the entire subject of Dental Surgery found no place either in the teaching, or at the examining board, an arrangement was accepted for more fully meeting the requirements of the case. Accordingly a conjoint board of examiners, consisting of half surgeons and half specialists, was created for the licentiate-ship of Dental Surgery, with a corresponding modification of the prescribed course of study, eliminating much that was of little value, and substituting what was regarded as specially necessary in that particular line of practice. Thus, by varying, not by lowering, the educational standard, an arrangement has been effected, which if not in all respects perfectly satisfactory, goes far to meet the reasonable views and wishes of those who have the welfare of the profession at heart. With this bare outline of our proceedings in reference to the organisation of the profession before us, we shall listen with interest to what has been accomplished in other countries in the same direction, not, it may be hoped, without mutual profit and advantage. Gentlemen, I feel that I ought not longer to tax your attention, but having declared this section of the Congress open, that we shall prepare ourselves to listen with appreciation and enjoyment to those varied and valuable contributions to the literature of our speciality with which we are so liberally favoured both from home and foreign sources. And first your attention will be asked for the always welcome utterances of one whose contributions to science during a long series of years, many of them having a direct interest for our own speciality, and almost unparalleled for number and value, have made his name a household word in both hemispheres. I mean Professor Owen. We feel grateful for his presence here to-day, which will confer prestige on our proceedings, and we tender him, with our thanks, our sincere felicitations that he has been able to witness, in unimpaired health and energy, the

realisation of his hopes and wishes in the completion of that noble structure, the Museum of Natural History.

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*The following is a report of Mr. Saunder's speech at the termination of the Sectional business on Tuesday the 9th inst.*

GENTLEMEN,—Our Congress, so far as concerns Section XII. now ends, and with it our pleasant and profitable interchange of thought. We shall doubtless be asked on all sides what is the outcome of this great and busy gathering? And what shall be our answer? That for the moment we have none, or one of little significance or distinction. We have seen, and have come to know, men for whom we may long have entertained a high regard and esteem, or towards whom we may have cherished a certain amount of groundless prejudice, and in either case have had the opportunity of forming a sounder judgment. And in other ways we have profited much, as must needs be the case when we encounter mental idiosyncracies, disposing on the one side to speculative theories and deductions from biological experiment, and on the other to a degree of patience and manipulative skill hitherto undreamt of. But time will be required accurately to estimate the benefits to science, to our art, and to ourselves, which may be traceable to this great gathering of the original and active minds which shed lustre on our profession throughout the civilized world.

On the occasion of the opening of our Section, I spoke of one great use of congresses, as affording an opportunity and a stimulus to intellectual effort, and this has been, I think all will admit, fully justified by the work of the week. How many of the admirable papers to which your attention has been directed might have been lying by for a more convenient season but for this great and august occasion? That we are unable to point to any very decided expression of opinion on certain subjects which have long been regarded as *sub judice*, and that many vexed questions have received no satisfactory solution may be plausibly alleged, but it is certain that



the attainment of this result must be advanced by such discussions as have taken place within these walls during this short session. As is befitting on the occasion of an International Congress, we have had papers by various hands, and from various countries. On novel modes of practice, such as replantation of teeth after excision of their necrosed parts, supported by Parisian acāademic fervour, and tardily admitted by English conservative distrust of the untried, but which will probably now settle into a recognised operation within certain limits of age, temperament and alveolar integrity. We have had exhaustive treatises on alveolar abscess, antral abscess, wasting of the alveoli, erosion, the treatment of irregularity, on anæsthetics, on the reproduction of bone with reference to the maxillæ, on dental surgery in the army, and an eloquent and philosophical discourse on a subject of the first importance, the supposed tendency to degeneracy in the race as shown by the frequency and early occurrence of decay in the teeth. Our session also boasts a thoroughly practical contribution to the art of dental surgery in connection with contour filling, and a distinct step in histology with reference to the nature and origin of caries, which is like a chink in a dark chamber, admitting an attenuated beam of light, suggesting a fuller revelation behind. Of these we may without presumption, now take account without pretending to determine their ultimate value.

To those who have taken part in this Congress, and who have conduced to this result, no less than to those who will in the future read its history and benefit by what it has achieved, this will, I think, appear no inconsiderable gain.

The discussions have been incisive and animated without acrimony, and devoid of the misrepresentations by which they are too often unfavourably characterised, and have not seldom risen to a pitch of eloquence which would not have been out of place in the legislative chamber. Gentlemen, the sad hour of parting has come too soon, but the recollection of our too brief intercourse will long remain

and linger in our memories as the odours of nature's jewels, the flowers, diffuse themselves with a stronger fragrance with the descending night.

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### A Case of Obstinate Facial Neuralgia Cured by Gelseminum.

By B. L. HARDING, L.D.S.Eng.

MISS M——, a young lady æt. 20, called to have her teeth examined, as she was suffering from acute neuralgia. She stated that she was unable to sleep, and that she felt quite worn out with suffering and the want of proper rest, and her pale and anxious appearance fully bore out her statement. I made the required examination and found two or three carious cavities, which I treated and filled, desiring her to call again if she still found no relief. She replied that she had little hopes of being cured, as she had been under the doctor's hands for between two and three years, and had seven or eight teeth extracted in the hope of obtaining relief, and that she was not any better than she had been at the beginning of that period.

Two days after she called again, told me that the stopping of the teeth had not had the desired effect, and begged me to extract them. This I refused to do then. I questioned the patient but could elicit no information as to whether there had been any bony growths on the fangs of the teeth that had been previously extracted. I also found that the pain was not localized to any particular tooth. I prescribed four doses of tincture of Gelseminum, twenty minims to the dose, to be taken with the lapse of an hour and-a-half between each, and told her to call again the next day. She did so, and stated that she had obtained some relief, but that she was still in pain. I directed her to take another four doses, and to come to me again, which she did, and reported herself quite cured. The only ill effects she experienced from the use of the gelseminum was a feeling of slight drowsiness. As I wished her to come again, should she have any recurrence of the pain, and she has not done so, I conclude that the cure is a permanent one.

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### Abscess of the Antrum.

WE have received an interesting account from Mr. Henry Evans, of Tenby, of a severe case of abscess of the antrum,

which had been treated for some time by the patient's medical adviser as neuralgia, with, as may be readily imagined, no very satisfactory results. The patient was a young gentleman of 26 years of age, pale, languid, and nervous, suffering from severe pain extending from the left malar bone to the nose. The cheek was swollen; the second upper molar decayed and tender, yet in the face of these pretty clear indications of abscess of the antrum, the patient had been treated for *neuralgia* for some considerable time.

Mr. Evans promptly extracted the diseased molar, and as no discharge followed the extraction, perforated the floor of the antrum through the socket of the tooth with a trocar, and having pierced the thickened lining membrane with a sharp instrument was rewarded by a gush of pus, and speedy relief to the patient. Mr. Evans kept the fistulous opening free with a silver canula secured to one of the adjacent teeth, washed out the cavity with warm water, and finally injected eucalyptus oil. The discharge disappeared on the fourth day, and at the end of six weeks the antrum was restored to a healthy condition.

What might have been the disastrous results to the patient had the anti-neuralgic treatment been persisted in it is easy to imagine. It is, unfortunately, only too familiar to most of us how widespread among the public is the foolish and mischievous notion that it is unadvisable to extract teeth while the surrounding parts are in a state of inflammation. Innumerable people have been permanently disfigured through a belief in this pernicious and nonsensical theory. We have even known cases in which medical men have advised their patients to wait until the inflammation has subsided, *and then* to go and consult their dentist! to wait, in fact, until it is almost beyond his power to prevent very serious results. Patients have been kept in bed for weeks, enduring days of agony and nights of sleeplessness, with swollen faces, and in a miserably debilitated condition, all because a dead tooth which had given rise to an alveolar abscess was kept in the head

until the abscess which it caused should disappear. If such cases were not within our own personal experience they would seem past belief, but as it is, they surely point very plainly to the necessity of a special education.

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### Odontological Society of Great Britain.

The last meeting of the session took place at the Dental Hospital, Leicester Square, on Monday, June 13th, Mr. Thomas Arnold Rogers, President, in the chair.

On taking his seat, the PRESIDENT spoke of the loss which the Society had lately sustained by the death of Mr. Isaac Sheffield, one of its oldest Members, a past president, and one who had always taken great interest in the progress of the Society. Mr. Rogers also announced that the Committee of the Dental Section of the International Medical Congress had unanimously approved of the proposal of the Council of the Society, to hold a *conversazione* on the evening of August 2nd, the first day of the congress.

Mr. HILDITCH HARDING showed an upper central incisor, which he had extracted from the mouth of a boy at St. Thomas's Hospital, on account of abscess about the fang; half of the crown had been broken off by an accident some time before. On examining the tooth after extraction, a piece of wood was found projecting a quarter of an inch from the apical foramen: this had evidently caused the abscess. On being questioned, the boy said he had been in the habit of chewing wood occasionally, for amusement, but he had no idea when, or how, the splinter got into the tooth.

Mr. COLEMAN related the following case, illustrating the difficulty which might occasionally arise in the performance of an apparently simple operation. A patient came to him complaining of pain in an upper wisdom tooth, which was carious. Mr. Coleman stopped it, but the pain returned, and the tooth was therefore extracted. It came out very easily, but one of the fangs was apparently missing, and on feeling in the alveolus, a hard substance was met with, which he took



to be the broken fang. Further examination showed, however, that this was not a broken root, but a second wisdom tooth, which was coming down above the first, and which had, by its pressure, caused the absorption of the root of the tooth which had been extracted. Mr. Coleman showed, also, a model of a case then under his care at St. Bartholomew's Hospital. The patient had a very hard, inelastic tumours on both sides of the lower jaw; it had deflected the lower teeth inwards, so that the upper teeth bit upon the external surface of the lower. It had been four years in forming. The stump of the second right molar was removed, and some fragments of the growth which adhered to it were examined under the microscope, but all that was found was some hypertrophy of the alveolar-dental membrane. Mr. Coleman hoped to be able to report the further progress of the case at a future meeting.

The CAVALIERE ATKINSON, of Naples, showed some models taken from patients who had been operated on for tumours of the jaws, together with the plates, &c., by means of which he had filled up the gaps caused by the operations. In one case, that of a woman who had been operated on for osteo-sarcoma, almost the whole of the right half of the upper jaw had been removed; and in another case, in which the tumour was recurrent, the nose, and part of the cheek, as well as a large portion of the upper maxilla, had been removed, yet the features had been restored, by means of a piece of semi-vulcanized rubber, carefully moulded and painted, in such a way that the disfigurement was not distinguishable at a distance of a few feet. He showed also models of two cases, in which portions of the lower jaw had been removed, and explained that these were much more difficult to treat, on account of the slight support afforded by the remaining portion of bone, and the great tendency there was for this to be displaced backwards and inwards by muscular action.

Mr. CHENEY, of Manchester, showed a vulcanite plate, the palate of which had been covered with gold foil, and then vulcanized. Vulcanite plates were often com-

plained of as being hot, owing to the fact that this substance was a bad conductor; the combination of gold greatly diminished this inconvenience. Mr. Cheney also showed a very neat and ingenious mode of attaching porcelain crowns to natural roots, by means of either white stopping or amalgam; an apparatus for approximating the central incisors' and an upper denture of celluloid, showing the thickness the piece should be made in order to prevent its warping and splitting round the teeth.

Mr. DAVID HEPBURN then read his paper on "Chronic Suppuration connected with the Teeth."

He did not intend to refer to ordinary cases of alveolar abscess, where a fistulous opening existed on the surface of the mucous membrane, communicating by a short canal with the root of a tooth, but should confine himself to those more complicated cases, in which there was a continuous, or intermittent, discharge, which had penetrated to a part remote from the original situation of the mischief, damaging in its course a large amount of tissue. Thus in a case which he had recently been treating, an impacted wisdom tooth had given rise to an abscess, the body of which was situated in the tissues behind the ramus of the lower jaw, but which had extended as far forward as the canine, and downwards into the neck. In some of these cases the discharge became, after a time, serous, but sometimes continued purulent and offensive, and then the presence of dead bone might be suspected. Even in the absence of dead bone, matter collected in a tortuous canal or cavity, communicating with the mouth, was placed under conditions highly favourable to putrescence, and strong antiseptics were required to prevent this change. In cases where it was not found possible entirely to check the discharge, a great service was done to the patient by disinfecting it. The most satisfactory agent for this purpose was eucalyptus oil, the use of which had been suggested by Mr. Arthur Underwood. After having used this remedy in some very aggravated cases, he felt that he could scarcely speak too highly in its praise.

In most cases the extraction of the teeth which had been the original cause of the irritation, would be followed by the closure of the sinus, but it was not always easy to discover which tooth was the original cause of the mischief, and sometimes even when this had been extracted little improvement would result. In such cases it might generally be concluded that some small portion of necrosed bone remained behind, and was keeping up irritation. But this could not always be discovered even by the most careful search with the probe, and it might remain for months and even for years, surrounded by fibrinous deposits without being absorbed. When at last, perhaps after protracted treatment, the fragment was discovered and could be removed, a rapid cure resulted.

Mr. HEPBURN related several cases illustrating these points. In one of them the patient was under treatment for five months, and was eventually cured by the extraction of a right upper lateral. In another the patient, a young man, had been suffering for seven months from a profuse discharge of offensive pus, coming from the socket of an extracted right upper lateral, before he applied to Mr. Hepburn for advice. Active treatment was persisted in for eight months with but partial success, when suspicion fell upon the centrals, which were broken and unsightly. They were extracted, and at the bottom of the socket of the right central a piece of dead bone was found, together with a canal which communicated in a circuitous manner with the sinus which had been so long discharging. The patient had improved greatly since the extraction of these teeth, but the dead bone had not come away, and he was still under treatment. These were cases which were a great source of trouble and anxiety to the practitioner, and of distress to the patient; he hoped therefore that those present would give their experience with regard to them, especially with respect to their pathology, and the best modes of treatment, and that some light might thus be thrown upon one of the difficulties of the profession.

Mr. ARTHUR UNDERWOOD said he was very pleased to hear that Mr. Hepburn had formed so high an opinion of the value of eucalyptus oil; it was certainly a very powerful antiseptic, more lasting in its effects than carbolic acid, and it possessed also valuable stimulating and healing properties. In cases where dead bone was present, it was very difficult to keep the discharges absolutely sweet, since the dead bone served as a haven for bacteria into the recesses of which the eucalyptus oil could not penetrate. In all other cases the remedy would be found thoroughly effectual, and would greatly shorten the time required for treatment.

Mr. HUNT, Yeovil, thought that too much was made of the presence of bacteria. These organisms were found everywhere; even in health we are all swarmed with them, and no one thought anything about them. There was no doubt that in the majority of cases these sinuses were dependent on the presence of dead bone, but they were also lined with mucous membrane, which was in a bad state. The source of irritation should be removed, and the diseased lining membrane scraped off; the sinus would then heal without further trouble.

Mr. GADDES related an obstinate case which had been under his care at the National Dental Hospital. He had found the injection of tincture of iodine very useful.

After some remarks from the President, Mr. F. H. Weiss, &c., Mr. Hepburn replied, and the meeting terminated.

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### The Clinics at the Dental Hospital.

THESE practical demonstrations, held at the Dental Hospital of London in connection with Section XII. of the Congress, were most successful and largely attended, reducing the audience in the afternoon, as compared with the morning, sittings of the section to a remarkable extent. Chairs, &c. were lent for the occasion by Messrs. Ash & Sons. We can, at present, only give a bare outline of the work performed, which, it will be seen, was of an extensive and varied character.

On Thursday, August 4th, Mr. Alfred Woodhouse, of London,



did some compound filling, placing tin at the cervical margin, soft gold, twisted into rope, at the lateral walls, the centre being filled with cohesive pellets, or rope, rapidly condensed by hand pressure.

Mr. T. C. Parson, of Clifton, made some fillings with soft gold put in on cylinder method, and condensed by hand pressure.

Mr. Walter Brown, of Nottingham, filled an approximal cavity in a superior right bicuspid, with cohesive gold, in pellet form, using a hand mallet, operated by an assistant.

Dr. Redman, of Brighton, filled an approximal cavity in a superior right molar with cohesive gold pellets, condensed by means of a hand mallet operated by an assistant.

Dr. Finley Thompson, of London, interposed an artificial tooth between a superior molar and bicuspid, anchoring it with cohesive gold into cavities cut in these teeth, hand malleting himself, the gold being put on by an assistant.

Mr. Walter Coffin, of London, exhibited and illustrated the use of several electrical appliances connected with Dentistry; notable amongst which were a Gramme electrical machine, used as a motor to drive a White Dental engine, and worked by a Faure accumulative battery, an extremely powerful battery of the new Laclanchè form.

Dr. Bonwill, exhibited his Dental engine and engine mallet, also his electric mallet.

On Friday, August 5th, Dr. Watling, of Ann Arbor College, filled a cavity in a superior incisor with cohesive gold, hand malletted by an assistant.

Mr. Alfred Woodhouse, of London; fillings in superior and inferior bicuspids, using tin at cervical walls, and soft gold for the rest of operations, condensed by hand pressure.

Dr. Atkinson, of New York, filled approximal cavities in left superior canine and first bicuspid teeth, using cohesive rolled gold, condensed by heavy hand mallet operated by an assistant.

Dr. Daboll, of Buffalo, U.S.A., filled a superior incisor with cohesive pellets, using Snow & Lewis' automatic mallets.

Dr. Underwood, of Lancaster, U.S.A., filled a large cavity in a superior molar with cohesive foil, using an improved modification of Green's Electric Burring Engine for excavating, and Webb's Electric Mallet, worked by Mr. W. Coffin's Laclanchè battery, for condensing the gold.

On Monday, August 8th, Dr. Redman, of Brighton, filled a

distal cavity in right superior bicuspid with cohesive gold pellets, hand malletted by an assistant, operation done by reflection in mouth mirror.

Mr. Robert Woodhouse, of London, filled two superior incisors, having interstitial cavities, with soft and annealed pellets, hand pressure, operation done by reflection in mouth-mirror.

Dr. Webb, of Philadelphia, U.S.A., filled an anterior approximal cavity in superior bicuspid; excavating done with Green's Electric Burring Engine, and using cohesive gold, condensed with Webb's Electric Mallet.

Dr. Bonwill, of Philadelphia, exhibited and demonstrated out of the mouth the use of his mineral crowns on stumps of teeth.

An interesting clinic was held at the office of Dr. W. St. George Elliott, of 39, Upper Brook Street, by Dr. Blount, of Geneva, Switzerland, to demonstrate before a number of dentists there assembled, his method of filling teeth with soft and adhesive gold combined, in such a manner as to obtain the best results of each.

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### Mr. Arnold Rogers' Conversazione.

THE accommodating powers of the Marlborough Rooms, though by no means small, were somewhat severely tested by the number of guests present at the *Conversazione* given by the President of the Odontological Society on the 2nd inst. The visitors present included not only all the leading dental practitioners in London, and a number of others, both English and foreign, whom the Congress had brought to town, but also a large gathering of those eminent in the general medical, and scientific world. Amongst those present were Professor Bentley, Dr. Magitot, Dr. Murie, Dr. Andrieu (President of the French Odontological Society), Dr. Kolliker (Zurich), Dr. Arkovy (Budapest), Drs. Marshall Webb, Bonwill, Shepherd, Kingsley, McKillops, Taft, Dean, Atkinson, &c., from America, Dr. Dentz, Dr. Stevens (Paris), Sir Joseph Fayrer, Professor Pirrie (Aberdeen), Dr. Paget (Cambridge), and a great many more. The band of the Coldstream Guards performed in one room, whilst in another Mr. Trelawny Cobham and the Glee Club of the Dental Hospital of London performed an excellent vocal selection to crowded and appreciative audiences.

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### Mr. Saunders' Garden Party.

FINE weather, the only doubtful element in the programme, rendered this entertainment as successful and enjoyable as might have been expected. Over three hundred members of the Congress assembled in Mr. Saunders' extensive grounds at Fairlawn, Wimbledon Common; amongst those present were Sir James and Lady Paget, Sir Henry and Lady Peck, Dr. and Mrs. Garrod, Dr. and Mrs. Russell Reynolds, Dr. and Mrs. Bristowe, Drs. Lionel Beale, Quain, Ord, Mr. Arthur Durham, &c., together with a number of the foreign members. Kalosdi's Hungarian band performed during the afternoon.

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### Royal College of Surgeons in Ireland.

The following are the examination papers which were set at the last examination for the Dental Diploma of the Royal College of Surgeons, Ireland. The candidates were requested to answer only one question in each paper.

1. Give the nerve supply of the teeth of the upper jaw.
  2. Give the attachments and relations of the mylo-hyoid muscle.
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1. Describe the best materials in use for procuring a perfect mould of an upper maxillary set.
  2. What treatment would you recommend for the accidental swallowing of an artificial denture?
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1. In what structure of a tooth would you look for the "contour lines?"
  2. What kind of nerve, as regards function, is the ninth cranial nerve?
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1. Give the symptoms and causes of, and suitable treatment for, purulent accumulation in upper maxillary sinus.
  2. Should a portion of either maxillary bone be broken from tooth extraction, state how you would treat the fracture, and explain the process by which it may be repaired.
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1. Describe the formation and progress of an alveolar abscess.
  2. When no treatment is adopted for a carious tooth, give the probable consequences, in the order of their occurrence, from the first appearance of caries to the loss of the tooth.
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1. Fang-filling, when necessary, and the materials employed?
  2. A front tooth after filling become discoloured; explain the different causes and the remedies you would employ.
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### Royal College of Surgeons of Edinburgh.

DURING the July sittings of the Examiners the following gentlemen passed their first professional examination for the Licence in Dental Surgery:—Matthew Finlayson, Alloa; David Monroe, Edinburgh; John James Bailey, Longton; Thomas Mansell, Hanley; John Sedgwick Spain, Dover; Henry Blandy, Chesterfield; and the following gentlemen passed their final examination, and were admitted Licentiates in Dental Surgery:—John James Bailey, Longton; Thomas Mansell, Hanley; John Sedgwick Spain, Dover; Robert Peel Thomson, Dublin.

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### Appointment.

Frederick Joseph Bennett, M.R.C.S.Eng., L.D.S.Eng., to be Dental Surgeon to the St. Marylebone General Dispensary.

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### The Parkes Exhibition.

THERE can be no doubt that a visit to this Exhibition is well worth the trouble of a journey to Kensington. The mere *amount* of apparatus that modern mechanical ingenuity has contrived to help the surgeon (whatever his department of surgery) to do his work more quickly, more thoroughly, and more painlessly, is very striking. One fact impresses itself upon our minds with additional force, after wandering through this apparently boundless collection of instruments, and that is that it all points to the growing necessity for a special education. It has long been a very obvious fact to all who are acquainted with the rapid advances of surgery and medicine in every direction, that no single human brain could really keep up with the times in all departments at once, no single brain could read the books that daily enrich the litera-



ture of the profession, and a visit to the Parkes Exhibition renders it pretty evident that no single person, probably, knows even the uses of all the instruments exhibited there. We wonder what would be the verdict of a representative body of Fellows of the College of Surgeons and of the College of Physicians upon the object and method of working of the ingenious Saliva pump in Messrs. Ash's collection; what an oculist or an obstetrician would make of a pair of clamp forceps or a set of pivoting instruments; or what, in fact, any specialist would do with the innumerable novelties in the way of mechanical appliances belonging to another speciality if he was asked to employ them on a patient. However extended and liberal we make the education of the rising generation in surgery and medicine, this indisputable fact remains, whether we like it or not, that it is becoming every day more impossible for the cleverest medical student to acquire it all thoroughly. A glance at the Ophthalmic, the Obstetric, the Aural or the Dental departments of this Exhibition, forces this fact very plainly upon us, that a special education is an absolute necessity for the welfare of the suffering humanity we are called upon to relieve, and for the conscientious performance of our duties towards them. The ceaseless energy of science and invention, is nowhere better illustrated than here. Of the innumerable experts who have flocked to see what improvements and advancements have been made in their own departments, there has not probably been one whose interest and knowledge were equal in all. We have a Medical Congress with special sections, a medical literature with special journals and special handbooks, and here an exhibition with special departments of mechanical appliances; and if this is so to-day, it will be infinitely more so in a few years' time. In the face of all this it would be as useless as absurd to deny that the public will with justice demand a special education and a special diploma for the practitioner to whom they entrust themselves, as the only means that can protect them from inexperience and consequent malpraxis.

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### Correspondence.

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We do not hold ourselves responsible for the views expressed by our Correspondents

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TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIRS,—With reference to the criticism on my Dental Metallurgy,

will you allow me to add one paragraph which was unfortunately omitted in printing the preface to the first edition, but which appears in that to the second edition, recently published ; it will, I think, fairly explain all points referred to.

"This book is practically a reply to continued and repeated questions which are being asked privately, and to which I have not time to reply. My time is too fully occupied to attend to any great private correspondence, and the book was written in a great hurry at odd moments, with the object of supplying information which is desirable, and yet not to be obtained by the majority of Dentists. It is not intended for a text book, but is simply a collection of odd information on practical subjects connected with Metallurgy, and as such, it must be taken with all its faults."

The advertisements to which objection is taken, are in themselves a valuable portion of the book, and contain an amount of information which is not only exceedingly valuable to Dentists, but it is also information which is not easily to be obtained by any other means. If the advertisements had been omitted in their present form, a very large portion would have required to be embodied in the book. In the advertisements this matter is given in a concise and intelligent form. That they are something very much more than advertisements is evident from the fact that they are printed separately for sale, and that whether bought with or without the book, they have to be paid for.

THOS. FLETCHER.

#### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

GENTLEMEN,—In seeking to correct your correspondent in his article on "L.D.S. Glasgow," the writer of the letter published in the succeeding number of the JOURNAL OF THE BRITISH DENTAL ASSOCIATION is, on his own showing, sadly in want of correction.

Had he been a little less partial, and quoted both the sets of figures on which your correspondent's statement was founded, his letter might well have passed unnoticed. In the table from which the figures he gives are taken, there is another set of figures side by side with the one he has quoted—briefly thus:—

	Total rejected.	Total passed.
R.C.S. Eng.	1	18
R.C.S. Ed.	0	5
F.P.S. Glas.	11	23
R.C.S.I.	8	47

With these figures before him, by what process in arithmetic the writer of the letter (who signs *pro* Secretary) can hope to make the case of the R.C.S. Ed. appear other than as your correspondent stated it, is a profound mystery. Possibly he meant to say that the returns from the R.C.S. Ed., and not your correspondent's, were "not correct and might mislead," and the attempt at an explanation which follows, favours this supposition, viz.: that the returns from the R.C.S. Ed. were differently made up from those of the other licensing bodies, that while the R.C.S. Ed. did *not*, all or any of the others *did* include in their returns the number of those who failed in the first as well as the second half of the L.D.S. examinations. Such an explanation is not creditable, for this simple reason, that it is entirely without foundation. There is nothing to show that the returns were in any way differently made up.

Mr. Robertson's communication, therefore, amounts to this—that while there were no rejections at Edinburgh in the second, there were some in the first part of the L.D.S. examination, a statement which may be equally true, for aught he knows, of all the other L.D.S. examinations, but which does nothing to support his charge against your correspondent.

The percentage of rejections with which the letter closes is no doubt correct, and valuable as an item of information, but that it may not mislead, it will be observed that it covers the whole time during which the L.D.S. has been examined for, whereas the statement challenged dealt only with the returns for 1830.

Probably your readers will experience no difficulty in determining whose statement is correct and whose might mislead.

I am, &c.,

Your Correspondent.

#### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.O.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.







## THE MEDICAL DIRECTORY.

With a view to an arrangement for the continuance of the List of Dental Licentiates in the Medical Directory, Messrs. Ash have kindly consented to act as Agents for the supply of the work to the Dental profession, and all practitioners are particularly requested to order copies of the Directory for 1882 ONLY through this channel.

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# THE JOURNAL

OF THE

# BRITISH DENTAL ASSOCIATION

A

*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. X.

SEPTEMBER 15, 1881.

VOL. II.

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### The Approaching Session.

WITH the termination of the present month will commence a fresh session of the Medical educational institutions of this country.

The Dentists Act being now in full operation, it will be more than interesting to note the number of persons registered by the Medical Council as having commenced their professional studies in the present year, and the entries of students at all of those institutions in the United Kingdom, which provide the special knowledge necessary for the Dental Diploma. Such information cannot but be useful in a variety of ways, and will no doubt be of special interest to all connected with Dental education. It must be noted also that a certain number of students enter the profession by serving an apprenticeship, and that the commencement of their professional

studies may date therefrom if the pupil is careful to register himself as a student at the Medical Council Office.

We apprehend, however, there will be no great difficulty in arriving at a fairly correct estimate of the number of Dental students pursuing their studies in England, Scotland and Ireland, and a relative comparison of each with the population of those countries will, to some extent, show which of them are most in favour as resorts for Dental study.

Dental Schools are rapidly multiplying, and thus the facilities for the education they offer are being brought home to many who occupy a position in our largest provincial towns. In all cases but one, these schools are, we believe, established in localities where exist also general Medical schools, and we can well understand the great advantage of this arrangement. The exception we refer to is Plymouth, and it will be interesting to watch what we might suppose would be the greater struggle that institution will have to endure in its competition with those which have general hospitals and schools in their own towns. The names of those who appear as lecturers and teachers at it is a guarantee that if the Plymouth School of Dental Surgery do not, in the long run, prove a success it will be owing to the circumstance ascribed; on the other hand, experience may prove that it is desirable the Dental student should before commencing his Medical studies fully complete his special studies, or *vice versâ*, and therefore, excepting the fact that a longer period of study will be involved, the disadvantage spoken of may not exist.

Another point deserving more consideration will be the ratio of candidates who present themselves before the various examining bodies as compared with the number of

students who qualify for the same in the countries they represent. A notoriously mild examination will ever, if it confer the same privileges, be an attraction to the majority, and it will be necessary to guard against those well known instances of candidates who, having been rejected by one body, pass with credit within a week or two at another. The published questions are never, as some suppose them to be, a criterion of the severity or otherwise of an examination; the test is what the examiners will accept as answers to them.

If any examining body draw to it a larger number of candidates than is consistent with the number of students who would naturally seek it as their proper centre it will lay itself open to the suspicion that it is attracting by a milder examination:—that its examiners are less rigid and that its examinees are less prepared than in the case of other such bodies will be the inference.

Another test with regard to the same opinion, though a less certain criterion, will be the proportion between pass and rejection at the various examining bodies, though this also on the other hand might prove valuable in demonstrating whether a certain body was not demanding more from its examinees than was fair or reasonable; perhaps the strongest objection to a conjoint system of examination might be found in such arguments. But it is the established schools themselves, we apprehend, which will benefit the most from a comparison of the number of new entries. In a fair competition they will have to note the progress or otherwise of their younger rivals, and when the latter show a success greater than can be attributable to locality or cheapness, may discover their failings and rectify the conditions which result in their lesser appreciation.



We shall, therefore, watch with interest the information we may be able to collect at the commencement of each fresh session, and shall feel grateful to the Deans and Secretaries of all Dental and Medical schools who will aid us in obtaining the statistics we require. Several of the topics we have touched upon are no doubt matters for the consideration of the Medical Council, but a representative body like the British Dental Association may very properly and usefully employ itself in seeing the duties and objects of the former strictly and impartially put into execution.

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### On Continuous Gum Work,

*A paper read at the Annual General Meeting of the Western Counties Branch,*  
By A. B. VERRIER, L.D.S.I., Weymouth.

I BELIEVE the idea of uniting artificial teeth to a metallic base by means of a fusible compound originated with the French. We are especially indebted to Dr. John Allen, a distinguished American dentist, for very important and original improvements in the compounding and manufacturing of the materials employed in Continuous Gum Work. The body and gum enamels prepared according to Dr. John Allen's formula may be obtained at any of the leading dental depôts. Basing my opinion upon results and experience in continuous gum work I am led to prefer the material as compounded by Dr. Allen; it being more certain in its results and when properly manipulated is certainly not so liable to fracture when worn in the mouth. I have encountered many difficulties in attempting to work successfully the continuous gum process with the ordinary furnaces in use, principally on account of the great labour involved in their proper management, in consequence of which many have abandoned the process and condemned one of the most beautiful processes in mechanical dentistry. The huge dimensions of former

furnaces, the difficulty encountered in their management, the time occupied in firing and cooling the work, besides the annoyance caused by dirt and dust and the risk of being roasted oneself precluded their general adoption. I have here two furnaces made after my pattern which are intended for use in the continuous gum process, the smaller of the two is designed for use with coal-gas or gasoline; I prefer the latter on account of its freedom from sulphurous and other gases, and consequently diminishing the liability of gassing the work in the process of firing. I would mention that Mr. Thomas Fletcher has kindly consented to make the furnaces for me of his porous fire-clay. The larger furnace is intended to be heated with coke broken up into small pieces, assisted by atmospheric air and the vapour of petroleum until thorough ignition of the coke has taken place, when the gas may be turned off and the necessary heat maintained by the action of the foot-blower, until the process of firing is complete. The small furnace is intended to stand upon a fire-clay slab supported by brackets fastened to the wall of the laboratory. The injector, which is supported by the fire-clay slab underneath the furnace, I have constructed so as to distribute the flame more equally over the whole surface of the muffle, and it is made so that it may be raised into direct contact with the inlet at the bottom of the furnace and so prevent the return of the gas. I am now engaged in completing a self-acting air and gasoline generator (fig. 1), which is principally intended for use with the injector furnace, and which will reduce the time and labour in working the continuous gum process very considerably.

A denture made in ceramic paste, when artistically put out of hand and the base plate scientifically adapted to the oral tissues is certainly the most beautiful production of dental prosthesis, besides being the purest and sweetest that can be worn in the mouth. The objection urged against continuous gum work by many dentists is its weight, but I am afraid the failure proceeds from the fact of bad

manipulation, imperfect construction, and ill adaptation of the base plates used in this process. Unless the work is

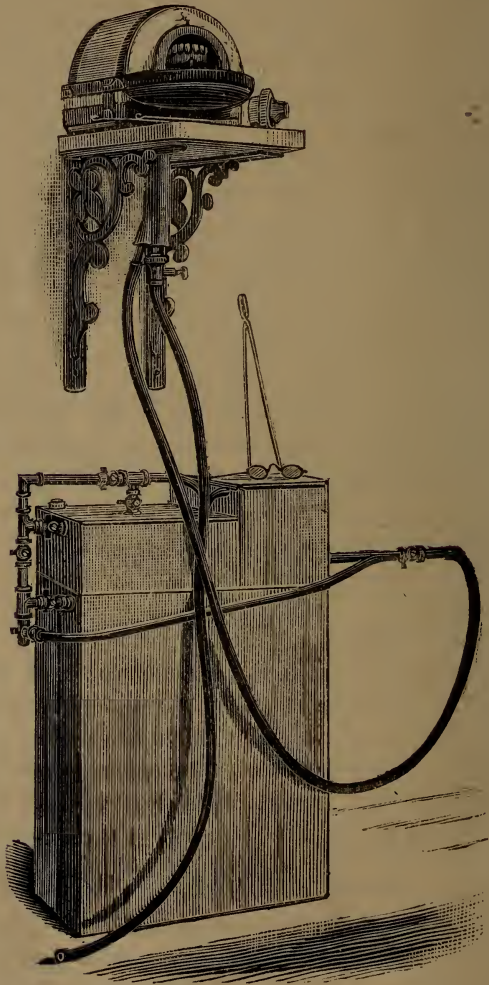


FIG. 1.

thoroughly and well executed from the procuring of a perfect model of the dental arch to the completion of the

denture, failure will be inevitable. To retain a denture successfully in contact with the tissues of the oral cavity depends upon the accuracy of its adaptation and the consequent exclusion of the atmospheric air from between the gums and base plate. If we could exhaust the air entirely from between the gum and plate so that the full force of the atmosphere be exerted upon its lingual surface, it would adhere with great tenacity; resisting a strain equal to fifteen pounds to each square inch of its surface. I have devoted time and attention to the construction of dental atmospheric plates, with varied success, but for some time past I have relied upon a style of atmospheric plate especially applicable to the continuous gum process possessing many advantages over the ordinary mode of construction. Amongst these I may mention its freedom from any tendency to warp in the process of firing the gum body or enamels; thorough stability in the mouth; great rigidity under the pressure of mastication; perfect adhesion and freedom from any tendency to injure the mucous membrane; its comparative lightness and simplicity of construction. I have with me a specimen plate intended for an upper denture in continuous gum work, made of two extremely thin soft platina plates united at their margins and having a slight space between the two throughout the whole extent of their surface. Fig. 2 represents a section of such a plate.

I always procure models of the mouth in plaster of Paris. Before casting the metal dies a chamber or shield, oval in form, must be moulded on the surface of the plaster model, and should not exceed in diameter half-an-inch, while the thickness should not be more than one-sixteenth. Having decided upon the dimensions of the base plate, allow an extra width of one-sixteenth of an inch fuller all round, as the edge must be turned up and present an abrupt shoulder to the margin of the gum enamel. The base plate may now be struck up to the required form, and the edge turned up with a suitable pair of pliers and



hammer. Being satisfied with the fit of the plate, secure it to the plaster model with adhesive wax. A layer of very thin sheet wax (not thicker than a threepenny-piece) is now to cover the whole lingual surface of the swaged metal plate to within one-eighth of an inch of its entire border, cutting away the wax plate covering the shield level with its surface, leaving it exposed. The edge of the wax-plate in position upon the model should be nicely bevelled off at its outer border to a very thin layer. Mould this in sand and procure metal dies. A second plate is now to be struck up large enough to cover the surface of the wax-plate and shield, allowing width enough for soldering. The two plates are now to be removed from the plaster cast and thoroughly cleaned by boiling in a weak solution of sulphuric acid and water, washing and brushing with pumice powder in the lathe. Before uniting the two plates a few very fine holes (A. A., fig. 2) must be drilled through the side of the shield struck up in the base or first plate, to prevent the bursting of the compound plate in the process of soldering, and also for the exhaustion of the air from between the plates by the patient when worn in the mouth. The plates forming the compound plate are now to be united with pieces of fine gold around the margins. The fine gold used in soldering should be laid on freely, as the platina absorbs most of it in the process of firing. If the union of the two plates is perfect, when tried in the mouth adhesion will be so complete as to require a very considerable force to displace it, the more so if the patient be requested to exhaust the air from between the plate by merely closing the mouth and gently sucking it. I do not advise this course, as the adhesion resulting from the pressure of the external atmosphere upon the whole outer area of the plate in consequence of the partial vacuum created between the plates causes it to adhere with great tenacity.

Being perfectly satisfied with the thorough adaptation of the base plate proceed to take the articulation in the

usual way, by attaching to the ridge of each plate a roll of adhesive wax as near as possible in width to the length

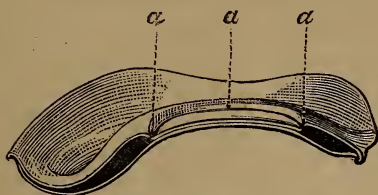


FIG. 2.

of the teeth required for each plate respectively. Place the plates with the wax in position, requesting the patient to throw the head well backwards so that the lower jaw shall be held back by the tension of the muscles of the neck when the mouth is closed. Antagonize the wax rims and mark the position of the frænum at the median line; and then adjust the whole in the articulator. Having selected a suitable set of continuous gum root teeth, proceed to set them up in the wax rims upon the base plate beginning with the six front upper and lower teeth. Place in the mouth and arrange them as to length, fullness and general outline; avoiding artificiality. The whole set of root-teeth may now be set up in the wax rims, allowing their roots to rest upon the plate, and finally tried into the mouth, adjusting any particular tooth or teeth according to your æsthetic taste and requirements of the case; for on this stage of the work depends the success of the denture as to shade, size, length, fullness, outline and natural appearance when finished. The adhesive wax adherent to the labial surfaces of the teeth must be removed, leaving them well exposed, so that they shall be held securely by the investient during the process of backing.

The labial surfaces and cutting edges of the teeth must now be covered with a very thin coating of fine clean

plaster of Paris and allowed to set firmly. Another layer not less than half an inch thick, composed of equal quantities of finely powdered asbestos and plaster of Paris in water is placed around the outside of the previous covering and the plate. The best way is to turn the batter out upon a slab, previously laying a few folds of blotting paper on it to remove any excess of moisture, and then press the plate with the teeth upwards into the mixture to within half an inch of the slab. Then with a spatula or suitable knife bring the investient up around and over the previous coating of plaster. The investient should be sufficiently thick to hold the teeth in position during the process of fitting and securing the platina backs; when set, the wax adherent to the teeth and plate can be removed with boiling water. The pins at the back of the teeth are now to be bent out, and a rim of soft platina, No. 6 guage, fitted to the backs of the teeth and base plate, bending down the pins to secure the platina backing in place; this may be put on in several strips with the ends overlapping each other, turning over the lower edge in positive contact with and upon the base plate, and should be one continuous band all around when soldered. Pieces of fine gold moistened with ground borax and water are to be put upon the parts to be soldered.

The work is now ready for soldering, which I always do in the furnace as follows. Heat the small gasoline furnace to a good red heat and then turn off the air and gasoline supply, gradually introducing the muffle with the piece to be soldered which may remain in the furnace until perfectly annealed. When the investient is quite dry draw the muffle forward to the furnace door; now turn the gasoline and air supply full on, at the same time working the foot-blower, and ignite the gas by throwing in a lighted match. Heat up the furnace gradually a second time, introducing the muffle with the work; and apply the heat until the process of soldering is complete. The work must be allowed to cool gradually before removing the investient.

The piece must now be well washed in water, using a stiff brush, and afterwards boiled out in a weak solution of sulphuric acid and water, and then washed in hot water to remove any trace of the acid. Now roughen the plate with a sharp graver.

The piece is now ready to receive the first application of the ceramic paste or gum body. For this purpose I have two shallow earthenware pots with good fitting covers to contain the gum body and enamel; one or two thin well-tempered spatulas; a suitable agate burnisher for compressing the compound; also one or two fine camel-hair brushes for laying on the paste, and one rather stiffer for removing any grit adherent to the surfaces of the teeth previous to firing. Also three wide-mouthed stoppered bottles containing distilled water for washing the brushes during the process of laying on the gum body and enamel. Before commencing to lay on the ceramic paste, see that everything is perfectly clean, and the floor of the laboratory is well sprinkled with water, to prevent any dust rising and so falling upon the work. A sheet of clean blotting paper should be laid upon the bench or table on which the work and necessary articles used in the process can be put. Holding the work in the fingers of the left hand, which should be perfectly clean, proceed to lay on the ceramic paste. Mix with distilled water in one of the earthenware pots sufficient gum body for the case in hand, to the consistency of thick cream. With suitable spatula and camel-hair brushes proceed to lay on the paste, working it well into the spaces between, under, and around the teeth; removing any excess of moisture with small pieces of blotting paper; and then thoroughly condensing it with the agate burnisher, covering the surface of the plate to about the thickness of a threepenny-piece. The layer of paste is then carved to represent the gum, palatal arch and rugæ, taking particular care to keep the necks of the teeth well defined; and finally, before firing the work, the surfaces of the teeth



should be freed from grit or particles of gum body by brushing them with a moderately stiff camel-hair brush. The work is now ready for firing; but before applying the whole volume of heat, the piece should be slowly but thoroughly dried in the furnace, by heating it to a red heat, turning off the gasoline and air supply, and then introducing the muffle containing the work gradually. The work should rest on a piece of platina wire bent so as to form three supports, and should be placed just inside the mouth of the muffle; when the work is thoroughly dry and annealed withdraw the muffle from the furnace, allowing it to rest at the furnace door.

The gasoline and air supply is now to be turned fully on, the same time working the foot blower and igniting the gas by throwing a lighted match into the furnace, gradually introducing the muffle as the heat is increased until the body becomes semi-vitrified, which is sufficient for the first firing. To those unacquainted with the firing of continuous gum work I would advise in commencing the process to use what is termed a test-piece, which is simply a piece of platina wire about six inches long flattened at one end, on which is laid a little of the gum body or enamel; this may be removed from the furnace at intervals of a few minutes and examined. The gasoline and air is then turned off, and the furnace is allowed to cool until the red heat has disappeared from the muffle, which may then be withdrawn, and the work allowed to thoroughly cool in the muffle at the furnace door. The work is then ready for a second application of the gum body, for the purpose of repairing any defects due to the shrinkage caused by the first firing. This done, the piece is again fired, allowing the second bake to be a little harder than the first, but not so much as to appear glossy. It is then allowed to cool as before, taking care to keep the muffle door closed, a precaution which must be observed after each baking.

The piece is now ready to receive an application of the

gum enamel, which is mixed in the same manner as the gum body in an earthenware pot, or other suitable vessel. A thin layer is then to be put on with spatula and suitable camel-hair brushes, covering the whole surface of the body, varying the thickness so as to represent the different shades to be observed in the natural gum. The crowns of the teeth must be well marked, the gum well defined, and the rugæ of the palate well moulded and prominent, removing any superfluous moisture with small pieces of blotting paper. Great care should be taken to remove with dry brushes all particles of the gum body and enamel or any other substance adherent to the crowns of the teeth previous to firing. Having carefully put on the enamel, the piece is then ready for the final baking or firing, which should be conducted as advised for firing the body, excepting that the heat must be stronger in order to produce a moderately glossy appearance of the enamel when fused. It is advisable not to remove the work from the muffle until it is quite cool: if cooled too rapidly it is rendered more fragile.

The piece is now to be boiled out in a very weak solution of sulphuric acid and water, preparatory to finishing the platina plate in the usual way by filing, sand papering, stoning &c., and the final gilding process, which may be simply done in the following way. Take twenty grains of waste gold stopping and put into a shallow evaporating dish with about 2 drachms of nitro-muriatic acid and evaporate nearly to dryness over a heated sand bath. Dissolve 6 drachms of cyanide of potassium in distilled or rain water and then add the chloride of gold. This is the gilding solution. The plate to be gilded should be well cleaned with powdered pumice stone in the lathe, and thoroughly washed in clean water. To gild the work put it into a suitable vessel with sufficient gilding solution to cover the article; gently warming it over a sand bath. A strip of clean sheet-zinc put into the solution and in contact with the plate will complete the gilding process, and

give a very fine and rich coating of gold equal if not superior to gilding by the aid of a battery. The edges of the plate should finally be burnished with the agate burnisher and plenty of clean soapy water.

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### General Enquiry into the Predisposing Causes of Dental Caries.

THE following series of questions relating to the Predisposing Causes of Dental Caries and Irregularity was read by Mr. J. R. Mummery before Section XII. of the International Medical Congress, on Saturday, August 6th. Before reading the questions, which had been drawn up by him at the request of the Council, Mr. Mummery referred briefly to a paper which he read before the Odontological Society of Great Britain, in 1869. He had examined in the course of nine years every available collection of skulls in England, in order to obtain reliable data respecting the dental condition of the races who have successively inhabited this country, more than 3000 skulls having come under his notice. About 2000 of these had been selected of which the identity could be ascertained, and he had found among the earliest races, whether palæolithic or neolithic, a striking infrequency of Caries. The Celtic race which succeeded them were proved by their implements and other remains to have attained a considerable advance in civilization, and among these people the increase of Dental disease was very apparent. After the Roman conquest, the introduction of artificial habits led to still greater degeneration of the state of the teeth, and some examples were found fully as serious as any of the present day. The influx of the mighty hoards of the Teutonic race, a people of simple habits of life, was followed by a remarkable diminution of dental disease. Mr. Mummery's deductions have been corroborated by military surgeons and others, who have had abundant opportunities of observ-

ing the teeth of various uncivilized races, but he thought that still wider observation was desirable. It appeared to him that a gathering of such an unprecedented number of scientific men afforded an opportunity which should not be lost, and he proposed the following list of questions for general distribution by authority of the Congress, with the hope that members of the profession would be induced to pursue the subject further, and to report, at a future Congress, the result of their investigations.

1. Have you any opportunity of comparing the teeth of mountain dwellers with those of a kindred race of people who inhabit marshy plains or insalubrious valleys?
2. Have you observed any injurious effects upon the teeth, attributable to the impregnation of drinking-water with sulphurous acid gas, in volcanic or in coal mining districts?
3. Have you facilities for comparing the condition of the teeth of factory operatives, with those of an agricultural population in a neighbouring district?
4. Have you noticed an especially healthy state of the teeth and fuller development of the maxillæ among sailors, whose diet of hard biscuit and tough meat requires efficient mastication, thus approaching the necessary habits of uncivilized races?
5. Have you observed, among communities in a similar rank of life, who subsist on a mixed and often unwholesome diet—requiring but little mastication—a less favorable condition of the jaw-bones and teeth?
6. Have you noticed any remarkably healthy state of the dental organs among people who subsist upon oatmeal, pure wheatmeal, maize, or leguminous food, as compared with those living upon potatoes or other food deficient in albuminoid elements?
7. Are you of opinion that the frequent sucking of sweetmeats, especially when combined with citric or



other acids, may be regarded as one cause of the increasing prevalence of dental caries?

8. Have you observed any instances of the alleged injurious effects of camphor as an ingredient in tooth powder?
  9. In instances of the immigration of families who have quitted a highly artificial state of life and have settled in a healthy district or country—adopting simpler and healthier habits—have you had the opportunity of comparing the diseased state of the teeth in the elder children, with those of the children born under the later and more salubrious conditions?
  10. Have you observed in certain families who have been for a long series of years under your professional care, a progressive deterioration of the teeth in each succeeding generation?
  11. Have you known instances in which the cumulative influence of hereditary disease, consequent upon repeated intermarriages, has manifested itself in contracted maxillary arch, and extensive dental caries?
  12. Have any cases come under your notice which lead you to conclude that injury to the teeth may sometimes be traceable to overtasking the intellect of young children, seeing that the brain is undergoing its most rapid growth at the time of life when the whole of the permanent teeth, with the exception of the third molars, are in process of development?
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### Obituary.

WE regret to record the death of Mr. Edward Waller, of Alexandria, Egypt, the brother of Robert Waller Bey, of Cairo, Dentist to the Khedive. The subject of our notice enjoyed for many years the confidence of a large clientèle, and was deservedly much esteemed. His death, which was very sudden, was probably the result of sun-stroke.

Western Counties Branch.  
THE SYSTEM OF PROFESSIONAL FEES.\*

By R. ROGERS, Esq., L.D.S.I., Cheltenham.

FOR some time past I have felt that the subject I am about to bring under notice is one of the greatest importance to our profession, particularly now that our position as a profession is by law raised to that status which I hope I may not be considered egotistical in saying it so richly deserves. For the future no one can enter our ranks without having gone through a thorough educational course, both general and medical; this has been made compulsory by the Dentists Act of 1878. My object in reading this paper is more to create a discussion than to lay down any rule of my own with regard to what should or should not be considered a professional fee for certain operations in Dental Surgery. That to a certain extent must always depend on the operator himself, he best knowing his own abilities and the class of patients he has to deal with. I am here presuming that all operators will conscientiously do the best for their patients. The necessity of, if possible, creating a discussion on the subject of professional fees was first brought to my notice by an article which appeared in the "British Journal of Dental Science" on the 15th February last, by Mr. Eimer R. Showler, entitled "*Amalgam versus Gold*." In this the writer complains that though a great advocate for gold fillings, yet owing to the somewhat humble financial position of the patients in that part of England in which he was then practising, he was frequently compelled to extract a tooth which might have been saved, simply because the patient could not afford to pay for a filling, and that he was obliged, if he filled a tooth with gold at all, to do it for half a guinea, which we all know (unless it should be a very small cavity) does not sufficiently remunerate the operator for

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\* This with Mr. Verrier's paper on Continuous Gum Work, which also appears in this Number, completes the report of the proceedings at the Annual General Meeting held at Bristol on July 30th.

the time and skill expended on it. I think that were our patients properly educated by us to thoroughly understand the vital importance it is to them to retain their own teeth whenever possible, rather than revert to the old system of extractions, which must sooner or later be succeeded by artificial teeth, or dyspepsia with its long train of evils will inevitably follow, they would at whatever sacrifice to themselves, cheerfully act as we advise, knowing that by so doing they are endeavouring to retain health, the very greatest of blessings, and without which there is no enjoyment in life. With imperfect mastication health cannot long be retained. I have thought by choosing this subject I might at least advance a few ideas, which though they might not be new or original, would tend to provoke a discussion which must be useful to us all, and in time might lead towards establishing a uniformity of fees amongst our Dental fraternity. My standpoint would be a uniform minimum fee, not a maximum; for we are all fully aware that there will ever be in our profession, as in all other professions, men who must necessarily take the lead, and so entitle themselves to whatever fee they may deem it expedient from time to time to charge. Again, some patients cause us more trouble than others, though the amount of work needed may be the same; therefore, in such a case we ought to be remunerated with a larger fee, as by such extra trouble and annoyance we are robbed not only of our time, but also of our vitality. And though money will not compensate us for the loss of the latter, it will certainly afford us the means for recreation, and so allow us to recuperate our wasted energies.

It is very disheartening, and doubtless it has occurred to many of you, to find patients upon whom you have most carefully and conscientiously attended, and for whom you have done good work, exclaiming when told the fee for the operation, "Oh! I can get that done by Mr. or Dr. So-and-so for half that fee." Such annoyances as these would not often happen were some rule adopted, whereby

a specified fee for a special-work were charged; say, for instance, a minimum fee of half a guinea for consultations, extractions, plastic fillings, &c., and for gold fillings one guinea and upwards. I say upwards because we know well that contours, approximals, compound cavities, large central fillings, &c., cannot be done for that sum to be remunerative, and therefore should be charged for as special operations. If there were some such uniformity of fees amongst us, and if each Dentist were honest and dealt justly by his patient and himself, he would be enabled to do good and lasting work which would prove decidedly advantageous to the patient, add to his public reputation, and ensure him the esteem of his professional brethren generally. As regards materials used for fillings, I can scarcely touch upon that now, as each operator has his own peculiar views and fancies on the point; but I do not think the patient has any right to interfere with the means employed for the preservation of the tooth so long as it is carefully, skilfully, and successfully performed. Gold when used to fill a large cavity represents value, but it should not be employed as a motive for obtaining a larger fee by mentioning to the patient the quantity of gold used for the case. Let it be plainly understood by the patient that the amount of the fee demanded is not for the gold, but for the time and skill expended on the case. I decidedly think also that all patients seeking our advice with regard to treatment of the teeth or diseases of the oral cavity should pay a fee whether the treatment be curative or only palliative.

I know that some of my professional brethren advocate time as a good standpoint for calculating fees. Now, to my mind, although one may take time as a basis to form one's own ideas as to what fee may be demanded for certain operations—still, time as a rule, is unjust to both patient and operator, for one operator will accomplish as much in one hour as another would in two, though they are both equally good operators, and the work is precisely similar.



Another objection to time as a basis is that one does not always feel equally inclined for work, and therefore then would not work so rapidly. My experience is that patients are decidedly better satisfied if before commencing a long operation some idea is given them with regard to what the fee will be. I am here of course alluding to radical work such as restoring the crown of a molar, one wall only standing, with gold, which would take at least from five to six hours to accomplish, and it is only in this or similar cases that I should deem it necessary to give this explanation.

The PRESIDENT observed that they had heard a very interesting paper. The subject was very important, and one that affected them all. He should be glad to hear as many opinions as possible from the meeting on the subject.

Mr. W. H. PARSON drew attention to the mode of sending in accounts. Patients sometimes wanted to know the particulars of everything that was done, but it took an awful time to get out a bill of particulars, and it was generally quite sufficient to put down so much for "professional attendance." He thought it would be a very good thing if they could arrive at some plan for stating a definite sum for different operations, but it was a very difficult thing to manage. Some people did not object to pay and others did. His work was principally gold work. He sometimes said to a patient, "Now, if you would like to have the tooth stopped with gold it will cost you——" but before he could mention the fee he was interrupted with, "Oh! don't mention the fee; have it stopped with the best stopping." He accordingly did the work, and the account reached to twelve or thirteen guineas, and then when the bill was sent in, the patient "wanted to know what these exorbitant charges were for."

Mr. FALKNER observed a patient might come six, eight, or ten times to have a tooth treated. In what way was it intended to arrange the fees in such a case?

Mr. POATE was not an advocate for time charges alone, still he did not see how they could justly charge the patient, and at the same time recoup themselves for the amount of time and labour expended, without keeping a record of the time employed, and adopting some basis in their own minds on which to be paid for

the time expended. With regard to one tooth, half a dozen visits of ten minutes each would cure it, while another might take a fortnight, and would only then be just beginning to get well. Take the disease named after Dr. Riggs, of which they had all more or less experience, and more or less trouble in treating, and the problem was how much to charge. In treating Riggs disease he always kept a record of the time occupied, and he charged at the rate of a guinea an hour, and in that way he got very well paid for his trouble and his patients were satisfied with the fee asked.

Mr. J. T. BROWNE-MASON (Exeter), said sometimes they were called upon to go a considerable distance into the country and when they made their charge they had quoted against them the fees that physicians would take for going an equal distance. But then they must take into consideration the fact that the physician would be going his round, and would be perhaps half way to a case further on, whilst the dentist was called away from his special avocation to go and perform an operation, and had to return back again. He should like to elicit the practice of some of his country friends who had to perform similar journeys as to how they regulated their charges under like circumstances.

Dr. WALKER's experience in London, led him up to the fact that patients were quite willing to pay good remunerative fees for honest work, if such fees were boldly stated at first consultation.

Mr. MALLETT remarked he had much pleasure in listening to Dr. Walker, but they must legislate not only for those who had got to the top of the tree, but for those who lived in the country, and for those who had to take small fees. He was glad himself to take five shillings, and he had taken two shillings and sixpence for an extraction. If they went in for big fees how were they to relieve poor people who had no guineas in their pockets? They could not talk of half guineas for an extraction to young ladies who were assistants in shops. Those people were respectable, and might have seen better days, and they could not send them to the Dental Hospital or the Dental Dispensary, for they had their pride, and did not care to go to these charitable institutions. They could relieve those people by taking smaller fees. But when they came to filling it was another thing. It took time and labour, and it took years to acquire the art to do it properly. It had taken him fifteen or twenty years to learn how to fill a tooth properly,

and when he filled a tooth properly, he ought to be well paid for it. It was in filling that their Transatlantic friends had surpassed them; he wanted to see English dentists vieing with them and doing better work and commanding better fees.

Mr. MORRISON jocularly remarked that since he came to Bristol his appreciation of the value of his services was greater than when he started. He fancied that if some of his hearers lived in the country where he did, their ideas of what their charges *ought* to be would remain what they were now, but what they would get would be very different. One gentleman had said he would take as the basis the time in dressing a tooth. Well, dressing a tooth was a long and laborious operation, and though the patient might have to come several times, yet when it came to a question of payment, the person might not be able to pay two or three guineas. It might be *infra dig.* and might not be up to the ideas of some of their great London swells who charged these immense sums, but still they had to get a living and if they did their work honestly, he thought it mattered to no one what they did it for. And leaders of the profession who talked about charging these immense fees, ought to come down and gain a little practical experience of what it was to deal with people who were too poor to pay large sums.

Mr. SPENCE BATE thought they should look upon it as a matter of surgery. No good surgeon—and they claimed the right to be called surgeons with a speciality—would ever turn away a suffering man simply for the sake of a fee. They must to a large extent regulate their own fees. They knew very well when men were beginning life, they did their work as cheaply as possible in order to get a reputation.

Mr. JAS. PARKINSON (London), thought that by not being exorbitant, and by treating their patients liberally, they would find in the end their income would not be much the smaller for it.

Mr. HUNT (Yeovil), would sum up the whole thing in a nutshell by saying “instead of demanding large fees, let us do more, let us deserve them.” If a man did his work honestly and fairly, and to the best of his ability, he should charge his price. If he had over-estimated the service he had rendered to his patients, he would soon find it out by his patients dropping off, but if his services were of a valuable nature, he would find it out by increasing practice. If he found his time getting so occupied that it would be

impossible for him to do the work in an honourable, conscientious manner, he could raise his fees, and could continue to do so as his services became more appreciated by the public. He thought those would be safe principles to act on.

Mr. ROGERS in summing up the discussion, agreed with Mr. Hunt that they must deserve large fees before they got them. He was pleased the discussion had taken place, and he thought it would be beneficial to them all.

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### International Medical Congress.

#### SECTION XII: DISEASES OF THE TEETH.

*Thursday, August 4th, 1881.*

THE President, Mr. Edwin SAUNDERS, took the Chair at 10 a.m., and after briefly calling attention to the rules which had been drawn up for the conduct of business, requested Dr. Magitot to read his paper "*Sur l'Etat Actuel de la Greffe Dentaire.*"

Dr. MAGITOT said the term "*greffe*," or grafting, of teeth included the operations of replantation and of transplantation, but he should on that occasion refer only to the first class of cases, those of replantation. This was not a new operation: it was mentioned by Albucasis and by Ambrose Paré, and was somewhat extensively practised towards the end of the last century, after attention had been called to it by the well-known experiments of John Hunter. It was, however, only of late years that the conditions necessary for success had been gradually ascertained, and the operation established on a sure and practical basis.

After mentioning some of those who had helped to bring about this result, including the experiments of Messrs. Coleman and Lyons, Dr. Magitot proceeded to relate his own experience. During the last six years he had performed replantation on 112 cases, and had taken the greatest pains to keep all these patients in view. He exhibited a table giving all the most important particulars respecting the first hundred of these cases, and he thought that the results thus shown would be sufficient to prove that the operation was eminently successful and thoroughly justifiable.



The cases to which it was applicable were those of chronic periostitis with denudation, or necrosis, of the apex of the root. On extracting such a tooth the tip of the root would be found rough and bare of periosteum; this portion was dead, and until it was either absorbed or removed by operation the tooth could not settle down to a healthy condition. At one time he had been in the habit of cutting off the diseased portion by means of pliers introduced through an opening in the gum, but he found this operation an uncertain one, on account of the difficulty of judging how much ought to be removed in any given case, and he soon abandoned it in favour of extraction and replantation.

The Tables exhibited gave the following particulars:—

*Sex:* 70 of the persons operated on were men; 30 were women.

*Age:* under 20 years of age, 17 cases; between 20—30, 42 cases; between 30—40, 24 cases; 40—50, 14; 50—60, 2; 60—70, 0; 70—80, 1—an old man who begged to have his tooth re-implanted, and, to Dr. Magitot's surprise, the experiment proved successful.

*The teeth operated on* were,—incisors, 27 upper, 10 lower; canines, 5 upper, 1 lower; bicuspid, 20 upper, 5 lower; molars, 10 upper, 20 lower.

As regards the *co-existence of caries*; 71 were carious; 29 sound. Some of the former had been efficiently stopped; in other cases the stoppings were faulty, or they had not been stopped at all: 44 teeth were thus filled whilst out of the mouth.

In 17 cases there was acute periostitis; in 41 abscess and gingival fistula; 5 had fistulæ opening externally; 7 had cysts connected with the roots of the tooth, and in 30 there was more or less necrosis of the jaw.

The amount of root removed varied from nothing up to 5mm; the mean being 2.6mm.

*Duration of treatment:* in the great majority of the cases the patients were quite comfortable in two or three days, and were discharged cured in 12—15 days; but in some few cases, especially those complicated by the presence of cysts or necrosis of the alveolus, the patient had continued under treatment for 3—4 months. The mean duration of treatment was, however, only 18 days.

*Complications during treatment:* in 75 cases there were no

complications at all; whilst in 25 there was more or less fever, inflammation, &c.

As to the time during which the results had been maintained: of the 100 cases 8 had been failures; of the remainder he had 82 still under observation, and all had gone on well up to the present time. In the remaining 10 cases the results of the operation had continued perfectly satisfactory up to the time when the patient was last seen, at periods varying from four months up to  $2\frac{1}{2}$  years after the operation. He thought, therefore, that he was justified in claiming 92 per cent. of successful cases, and that these figures showed that the operation was a simple one, easy of performance, and, above all, rapid and favourable in its results.

The thanks of the meeting having been tendered to Dr. Magitot by the President,

Dr. FINLEY THOMPSON proceeded to read a paper on the same subject. The extent to which this operation had been practised of late rendered it, he thought, desirable that the subject should be thoroughly discussed, and he submitted the following questions for consideration:—(1) Should replantation be considered a recognised operation in dentistry?

(2) Under what pathological conditions should it be employed?

(3) When this method is adopted, the pulp tissue being removed and the canals filled, what percentage of the cases treated were successful?

(4) What proportion of the cases treated in this manner relapse into abscess and chronic periodontitis as compared with those treated in the mouth?

(5) What advantages, in contra-distinction to the disadvantages, might be claimed for replantation?

There were two advantages which might be claimed for replantation. In the first place those who had treated cases of chronic alveolar abscess must have met with some in which the long continued attendance was a great source of inconvenience to the patient, more especially since the operator could not give an absolute assurance of a successful result, and in which any plan which would afford more prompt relief would be gladly welcomed: again, when patients came from a distance it was a great boon to them if a satisfactory operation could be performed in a single sitting. Even under such conditions as these his opinion was that the operation should be restricted to extreme cases.

It might be alleged that the severance of contiguous tissues and the disruption of the nutrient vessels must be attended with such an amount of injury as to preclude satisfactory re-union, but that this might be perfect enough to ensure a sufficient amount of vitality in the tooth was now well established by the cases of teeth which had been replanted many years, and which still remained sound and useful. A patient had come under his care for whom the late Mr. Edwin Sercomb had several years ago replanted the second inferior bicuspid, and the tooth presented every appearance of being alive; and numerous other equally successful cases had been recorded.

Fillings which would be extremely difficult to do in the mouth, as where decay extended under the gum, could be perfectly and painlessly performed by this means, the extraction being effected under the influence of nitrous oxide, and when the filling had been completed the same agent could be used to obviate the pain of replantation. When once the tooth was established in position nothing more than a few days uneasiness would be experienced.

Turning to the disadvantages of the operation. In the first place the mere mention of an "operation" was generally repugnant to the feelings of the patient; for several days the tooth must be an object of care to the patient, but it was doubtful whether the actual amount of pain inflicted was greater than that caused by the ordinary treatment by local applications.

The next consideration was the uncertainty of the operation, and this was affected by various circumstances which were quite beyond control. Before referring to these he would briefly describe the form of operation he had himself adopted. After extracting the tooth he excised the necrosed portion of the root, and then restored this part by means of a gold cap, with the object of preventing absorption. He had, however, no actual evidence of its value in this respect, and was not now disposed to attach much value to it. But a point to which he did attach importance was that, instead of drilling through the alveolus or cutting a gutter along the root, he made an opening from the grinding surface of the tooth into the pulp chamber, and inserted a gold tube extending from the grinding surface to the apex of the root; this served as a ready means for the escape of inflammatory products.

He had kept a record of all the cases of replantation which had

come under his notice, but as his experiments had for the most part been made on persons in the lower ranks of life, he had not in all cases been able to follow up the result. Still out of 80 cases, the failures, so far as he knew, were only 8; five of these arose from non-union; one from imperfect union after three months retention, and two from recurrent abscess. This gave 88 per cent. of successful cases. Of the eight cases lost, five were not tubed; of the other three, which were tubed, one abscessed again, and the other two were lost from non-union. Of the successful cases about half were tubed.

He wished his own opinion to be distinctly understood. He had operated on these cases for two reasons: first, because the tooth was so much diseased that satisfactory treatment in the mouth was exceedingly doubtful; secondly, that he might from his own experimental experience be able to record his failure or success in replanting. Therefore he reiterated the opinion that the system of replanting should only be adopted in severe or otherwise hopeless cases. The percentage of failures as given by Dr. Magitot and by himself, showed that for the cure of chronic alveolar abscess replantation could not be entirely depended on, still it offered fair prospects of success. In conclusion, Dr. Thompson referred to two cases of transplantation of bone, which had been carried out successfully by Mr. Charles Macnamara, one of the surgeons to the Westminster Hospital. Mr. Macnamara had been led to make this attempt by what he had seen in cases of replanted teeth.

The PRESIDENT having thanked Dr. Thompson for his full, fair and candid exposition of the subject,

The SECRETARY (C. Tomes, Esq.) said he had been requested by Mr. Percy May to hand round for inspection a tooth which had been the subject of an unsuccessful operation of replanting. The tooth had remained in for 18 months, and was then removed, because it was painful and tender, though not particularly loose, and there was some little suppuration from it. The specimen was chiefly interesting as showing the large amount of absorption that had taken place in that space of time. He also produced for the inspection of the meeting a caricature belonging to the Odontological Society, which represented the operation of transplantation of teeth. It was dated 1785, and was interesting from the fact that at that time John Hunter was active on such matters, and was writing a treatise on the teeth. Mr. Tomes also read extracts



from two contemporary works, "Foot's Observations on the New Opinions of John Hunter" (1787) and "Foot's Life of Hunter" (1794), in both of which the operation was strongly condemned, chiefly on account of the risk of communicating syphilis, and a case in which this actually occurred was narrated at length.

Dr. TAFT (of Cincinnati) in opening the discussion said no doubt the subject of replanting was one about which they had all been thinking during the last few years. The question suggested itself at once as to what were the occasions on which it was best to resort to the operation. In his own practice he confined it to three cases. In the first place where a good tooth was accidentally removed—taken away by mistake—as sometimes occurred, not with them, of course, but with "other fellows." Secondly, if by any other accident a valuable tooth should be removed, it should usually be replanted with the hope, and usually with the result, of a good union of perfect fixedness of position; and thirdly, in very obstinate cases of alveolar abscess, where after exhausting all resources there was a failure to secure the desired end, and especially where the fistulous opening terminated on the surface outside. Sometimes even where there was a fistulous opening in the mouth, he deemed it best to remove the tooth. It was only, however, in these extreme cases, where the ordinary treatment failed and where there was an obstinate persistence of the condition, that he removed the tooth, simply for the purpose of ascertaining what the trouble was, and frequently there would be found in such cases deposits on the root beyond the reach of the scaling instruments sufficient to keep up the irritation. With regard to the success of the operation, in the case of a thoroughly healthy person, especially if under 40 years of age, he should certainly expect to secure re-union by replacement. The tooth would not always remain so long in the mouth as the other teeth, even in the most favourable cases, but in some cases it would. He had a case in his mind at the moment where 35 years ago a tooth was removed by accident and replaced, and yet four years ago it was as good as any other tooth in the mouth. That was a case of accidental removal from the mouth of a boy of 16. The tooth was promptly replaced, and no inflammatory action set up afterwards, but union occurred by first intention. Replanting was far more likely to be successful with the anterior teeth than with the molars. Some people condemned

the operation *in toto* because of occasional failures, but that ought not to deter them from trying it. The method of the union that took place was of the same character as the reparation produced in any surgical operation, and where the tissue had been disturbed as little as possible there the union would be the most enduring. Re-union was made between the walls of the socket and the root of the tooth. It had been said that the periosteum was an important element, but it was not a necessity. He had seen union take place with the cementum of the root after it had been entirely denuded of its surrounding soft tissue. It had been frequently asked whether the point of a tooth would again make physical and nervous connection with the tissues below. That was not, perhaps, a question of great importance in one aspect but it was in another, and there were cases in which that had been accomplished. It had been stated that replanting had only been resorted to in extreme cases, and yet in many reparation had taken place. The wonder to him was that they had not all failed. The method of accomplishing the operation was by the careful removal of the tooth with as little breaking up of the periosteum as possible, by avoiding laceration of the soft parts, and fracture in the process, and then if the tooth was to remain long out of the socket he regarded it as important that the socket should be filled up with a pledget of cotton moistened with some preparation to prevent coagulation. Then let the tooth be manipulated most carefully, especially with regard to the root, while out of the mouth, and replaced carefully in its position, retaining it mechanically for some time.

Mr. A. COLEMAN said that 14 years ago his attention had been turned to the operation of transplantation, and he had thought that by the employment of antiseptic means the diseased root of a tooth might be brought to a condition in which it was safe to replace it in its socket. His process was a simple one, consisting of the removal of the tooth, the scraping away of a large portion of the diseased membrane and some of the cementum as well; the immersion of the exposed portion in an antiseptic, and then at once returning it to its alveolus. Treated in this way his cases had not been very successful, and he had been led, by that and by other circumstances over which he had no control, to discard it. In the same way as with the operation of Ovariectomy when first introduced, its success was very small, but he thought Dr. Magitot

had brought success up to a point where replanting might well be called a legitimate operation.

Dr. ATKINSON (New York) thought that, although the operation might eventually prove a valuable one, the papers which had been read dealt too much in generalisations. Additional observations were needed; there was still a want of clear knowledge respecting the conditions under which it could be advantageously performed, and so long as there was only guesswork to depend upon it behoved professional men to move cautiously.

Mr. BALKWILL (Plymouth) said, there were two operations somewhat resembling replantation, which he had frequently practised successfully, viz., the forcible rotation of a tooth whose cutting edge was at an angle with its neighbours, and the forcible moving into line of a tooth which had been crowded out, space having been made by the extraction of the tooth behind it. There was very little danger in these operations, though occasionally in the first case slight opacity might result. But with regard to replantation proper, the amount of success he had met with was not sufficient to encourage him to persevere with it. He had been surprised that so little reference had been made during the discussion to the fact of absorption taking place after the operation, as well as to the occurrence of alveolar abscess after it. He had found that absorption of the root took place in a large number of cases. He thought at one time that this only occurred when the periosteum had been scraped off, but in one case in which this had not been done, the tooth, after doing duty for a year, unexpectedly gave way, and he found that almost complete absorption of the root had taken place. At the same time he could himself bear testimony that replantation might be exceedingly successful in some cases, and he would instance the case of a gentleman who had a lateral tooth extracted owing to inflammation of the periosteum of a chronic character. The periosteum was scraped off, and the tooth replaced. After an absence of several years in the West Indies, the gentleman returned, when the tooth was found to be perfectly firm and apparently healthy at the root, but the crown gave way in consequence of caries, and to show how firm the root was, he had been able to perform the operation of pivoting upon it.

Dr. JOSEF ISZLAI (Budapest) called attention to the fact that experiments had been made at Bonn, and again by Metterlich,

at Berlin, in which dogs' teeth had been extracted, replanted, and then examined after a considerable interval of time, and it was found that the vascular and nervous connections were re-established. So in the case of a girl, one of whose first bicuspid he had extracted accidentally, he found six months later that it exhibited the same amount of sensibility to heat and cold as its neighbours. These were of course healthy teeth; with regard to cases in which the operation had been performed on teeth affected with chronic periostitis, his experience had not been favourable; he had scarcely seen a case in which such a tooth had lasted after the operation for more than two years. He thought, therefore, that most cases could be better dealt with by treating the pulp cavity antiseptically, and that replantation should be used only as a last resource.

Mr. SPENCE BATE said that whilst he had every confidence in the results of replantation in cases where teeth had been accidentally knocked or pulled out, his experience with regard to its results in the case of teeth affected with alveolar abscess, was quite opposed to that of Dr. Magitot. He believed that his own practice was surgically more correct, as it certainly was more successful; indeed, the percentage of failures which he had met with for some years past was so small as not to be worth recording. His plan consisted in making a tolerably large opening into the alveolus over the extreme apex of the root, where the inflammation existed, and then to treat it with carbolic acid. In cases where he had extracted, and found that the peridentium had been destroyed by inflammation, replantation of the tooth had invariably been followed by necrosis of the root, and he had consequently made it a strict rule not to replant teeth which were thus diseased. He thought the experience of Dr. Magitot was contrary to that of surgeons in similar cases: no surgeon would believe that bone could be preserved after the periosteum had gone. His experience, therefore, was dead against replantation in cases where extensive inflammatory action had been set up. He would suggest that at the close of the Congress a Committee should be appointed to investigate the question on scientific grounds.

The discussion was continued by Dr. Dentz, of Utrecht, who asked Dr. Magitot the causes of the failures in his eight unsuccessful cases, by Mr. Browne-Mason (Exeter), and by Mr. S. J. Hutchinson, who proposed that the question—whether the replantation of teeth



affected with chronic periostitis should be considered a recognised operation—should be decided by the votes of those present; this was, however, at once objected to, and Mr. Hutchinson withdrew his proposition.

Dr. MAGITOT, having been called upon by the President for his reply, said that the eight cases of failure were all due to the non-establishment of vascular union between the tooth and its socket; the tooth remained loose, and when the retaining splint was removed, it fell out. These teeth were all affected with very extensive periostitis; in some the periosteum was much hypertrophied, and he believed this to be a condition very unfavourable to success. In others the periosteum had been destroyed in lanes, or channels, running longitudinally down the fang; this, he believed, was fatal to success, it was essential that there should be a complete ring of living periosteum round the root. Some of the speakers had mentioned absorption of the roots of replanted teeth as being of frequent occurrence. He had not met with this; he had cases under observation which had been operated on in 1875, and the teeth were still quite firm. He was not in the habit of filling the root canal, and considered this quite unnecessary; indeed, he objected altogether to the introduction of any foreign substances, as being likely to set up irritation, or even inflammation, and it appeared to him possible that some of the evils spoken of might have been due to this practice.

Mr. Daniel CORBETT, of Dublin, then read a paper on "Interrupted Second Dentition as a cause of Reflex Constitutional Disturbance." Mr. Corbett said his object in reading the paper was to prove from his own personal experience that cases arose in medical practice where the physician, if he meant to act conscientiously and with benefit to his patient, could not afford to ignore the advice and services of the Dental Surgeon.

For some years he had given close attention to the subject of reflex action connected with the teeth, and had thus been enabled to diagnose correctly several cases in which the symptoms to be combated were anomalous and inexplicable, according to received doctrine and authority. Reflex action was a phenomenon more frequently observed in youth than in mature age, and the period of the second dentition afforded many instances which proved the correctness of the statement he had made with reference to the importance of the Dental Surgeon. Before proceeding to give the

particulars of two or three typical cases which had come under his own observation, Mr. Corbett called attention to the connection of the fifth nerve with the sympathetic through the intervention of the Gasserian ganglion.

The first case was that of a girl, aged 15, of somewhat nervous temperament, but otherwise healthy, who was subject to copious lachrymation whenever she went out of doors. Her eyes were apparently healthy, but the moment she went into the open air, the tears poured down her cheeks in a most distressing manner. Many medical men had been consulted, and numerous plans of treatment had been tried but without benefit, until at last she was brought to Mr. Corbett. On examination he found the upper canines absent; the dental arch was perfect, and he was assured that no teeth had been extracted. He at once removed the first bicuspid on either side; within a week an improvement was observable, and within three months all inconvenience had ceased, and the cuspidati had made their appearance.

Case 2 was that of a girl, aged 13, who had always been of weak intellect, but had been docile and tractable until the period of the second dentition. She then became at times violent and subject to paroxysms of excitement, in which she would run about biting at everything within her reach; she would even attempt to bite the lamp posts in the street. Her teeth appearing to require attention she was brought to Mr. Corbett, who found the lower incisors overlapping each other, and the canines pressed forward in a most unsightly manner. The first bicuspid were at once removed, and when the child was brought again for inspection, after a month's interval, her guardian stated that although no improvement had taken place in her mental condition, the biting propensity had completely disappeared.

Case 3.—A medical friend spoke incidentally to Mr. Corbett of the state of his daughter's health. She was 17 years of age, and had been quite well until two years previously, when she began to suffer from weakness of the lower limbs and impaired vision. This state of things gradually became worse, until she could not walk without assistance, and there was complete loss of vision when in the erect position, though when sitting she could see large objects. As her condition had resisted every description of treatment, Mr. Corbett asked the father to let him examine her mouth. This was agreed to, and on inspection the lower wisdom teeth

were found partially erupted and pressing strongly against the second molars, displacing these slightly outwards. Mr. Corbett extracted the second molar on both sides; within a week slight improvement was visible, and at the end of three months the young lady was quite well, except that she never recovered the sight of the right eye. She had ever since enjoyed the most perfect health. Mr. Corbett said he would not attempt to enter upon any explanation of these facts, further investigations in this direction were still needed, but he trusted that the cases would be found of sufficient interest to warrant his bringing them forward.

A vote of thanks having been given to Mr. Corbett, the proceedings were adjourned until two o'clock.

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*Thursday Afternoon.*

On re-assembling at 2 p.m., Mr. S. J. HUTCHINSON read a paper which had been prepared by Dr. Arkövy, of Budapest, relating the results of some experiments on the action of certain agents used for the devitalization of the tooth pulp.

He found that the only two agents which at all answered ideal requirements as devitalizing agents were *arsenious acid* and *pepsine*. The experiments were made on dogs, with the aid of an apparatus constructed by the author of the paper, and their results may be briefly described as follows:—

(I.) *Arsenious Acid*, brought into contact with the tooth pulp, causes more or less inflammatory hyperæmia, varying according to the quantity applied; the capillaries become dilated to three or four times their normal size. It combines with the hæmoglobulin of the corpuscles; these become shrunken, and their contents changed into a yellowish detritus which stains all the pulp-tissue. Arsenious acid produces *no coagulation of tissue whatever*, and has no effect upon the bulk of the pulp-tissue, viz., on the connective fibres and odontoblasts; the connective tissue cells are, however, increased in size. In large doses—more than one milligramme—it causes granular degeneration of the axial portions of the nerve fibres, and the axis-cylinder may here and there disappear; an irregular tumefaction of the axis-cylinder may also be sometimes seen, which has hitherto been noticed only in cases of central lesions. When complete devitalization is effected, the pulp and neighbouring dentine become stained a brownish-red colour, which

is more distinct in proportion to the amount of the agent which is used, and the time it has remained in contact; if a large dose is used the cementum may be thus stained. The amount of staining may also afford some indication of the probable state of the peridental membrane. To produce these effects arsenic must be in actual contact with the pulp; it has no action upon the dentine.

(II.) *Pepsine* acts quite differently: a dose of 4-5 mg. will cause well-marked coagulation of the albumen of the pulp, and if injected into its substance even 1 mg. will cause circumscribed coagulation. When full doses (5 mg.) are used the coagulation extends far beyond the point of application, and may reach the terminal ends of the root-canals. In other cases only  $\frac{1}{3}$  or  $\frac{1}{4}$  of the root-pulp may be destroyed; then the tissue round the point of application becomes injected, and beyond this a dark line of demarcation shows the limit of the action. The capillaries are seen to be dilated and purplish-red in colour.

Dr. Arkövy does not think that the direct action of the pepsine ever extends beyond the apex foramen, but peridental inflammation may occur as the result of collateral hyperæmia. In larger doses it causes fatty degeneration of the nerve fibres, but has no action on the dentine.

Arsenious acid and pepsine being, therefore, essentially different in their mode of action, the conditions of their application must also be different. Neither of the agents has any devitalizing action upon the pulp through a layer of dentine, they must be applied so as to be in contact with its surface. The quantities which must be used to obtain an insensible pulp are very different. Thus in the case of arsenic the dose should vary from 1-3 mg., according to the size of the pulp, &c. Arsenic must never be left in contact with the pulp for more than twenty-four hours; a dose even of 1 or 2 mg. if left longer than twenty-four hours may produce periodontitis, and if not then removed may set up osteo-myelitis, periostitis, and diffuse inflammation of the surrounding soft parts. The swallowing of arsenious acid in such quantities is not likely to cause any discomfort, the smallest poisonous dose being 1 centigramme, but care must be taken not to let it come in contact with the gum.

Pepsine only produces bad effects if a great quantity of it be used, and if left too long in contact. If required to act quickly,



*i.e.*, in twenty-four hours, 4-5 mg. must be used; but if left for two or three days 2-3 mg. will suffice. There is more risk of getting periodontitis from 1 mg. of arsenic in twenty-four hours than from three or four times the quantity of pepsine; this agent is therefore indicated in all cases where the occurrence of periodontitis seems likely; it is especially useful for the teeth of young subjects, with a large aperture to the root-canal; for nervous and fidgety people, for distal cavities, or where the margin of the cavity is below the level of the gum, and all cases where the careful applications of arsenic would be a matter of difficulty; and also if the patient cannot return for two or three days.

Whichever agent is used the pulp must be entirely extirpated, else periodontitis will supervene sooner or later—sooner after arsenic, later after pepsine. This effect seems to be due, in the case of arsenic, to direct chemical action, and in the case of pepsine to decomposition and the growth of fungi, which commences after about three days.

Dr. Arkövy does not think that arsenious acid when applied on a lamella of dentine has any special effect in stimulating the odontoblast layer to the production of secondary dentine, as has been supposed; he thinks that this is due simply to the irritation produced by thermic changes, and remarked that most obturating materials will produce this effect in a greater or less degree.

Mr. THOMAS GADDES then read a paper on "Dental Surgery in the Army." Having given some statistics relating to the army both at home and abroad, he pointed out that the Army Medical Department required its officers to undergo special training and examinations so that the health of the soldier might be properly cared for. The close relation between diseases of the teeth and disturbances of the general health were well known, not only to the specialist but also to every observant physician and surgeon. The necessity for the special nature of Dental education and examinations had been fully recognised by the Act of Parliament of 1878, by the General Medical Council, by the Royal College of Surgeons of England and other surgical corporations, yet Dental Surgery was totally ignored by the Army Medical Department, and did not enter into any part of the training required by it. That there was necessity for such instruction all must agree, but how it could best be given required some consideration. In 1857 Director-General A. Smith sought

the co-operation of the medical officers of the service in an attempt to introduce a better knowledge of Dental Surgery. In 1859 it was ordered by the Governor of Madras in Council that a medical officer in every European regiment be instructed in Dental Surgery. Dr. Porteous carried out the provisions of this resolution for two seasons, but not being supported by the Home Government, the attempt was abandoned. Mr. Gaddes suggested that special instruction in this branch of surgery should be given to candidates for the Army Medical Department by attendance at a course of lectures and operative work, during their course of study at Netley and other similar institutions, and that the pass examinations should include questions and, above all, practical work in Dental Surgery.

Mr. A. COLEMAN then read a short paper on "The Administration of Anæsthetics at the Dental Hospital of London since 1868." The records of the hospital showed that within the period referred to anæsthetics had been administered a little over 20,000 times—nitrous oxide being the agent principally employed, and that during the whole of that time no case had occurred which had given the operator more than a few minutes' uneasiness, and only in two cases was artificial respiration resorted to.

After a vote of thanks to the authors of the papers, the proceedings were adjourned till next day.

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## Review.

### *Surgery for Dental Students.*

BY ARTHUR S. UNDERWOOD, M.R.C.S., L.D.S.E.,

Assistant Surgeon to the Dental Hospital of London.

CANDIDATES for the diploma in Dental Surgery will hail with satisfaction the publication of Mr. Arthur Underwood's book. To the student it has always been a matter of uncertainty to know how far he was expected to dip into general surgery in order to satisfy the requirements of examining boards. The appearance of a work therefore which contains in a compact form most that is necessary to this end in this particular branch of study, removes the source of perplexity. Formerly, as Mr. Underwood says, "each candidate had to search amongst lengthy works, reading a little here

and a little there of each, and as the time at the disposal of a future L.D.S. for preparing himself is not unlimited, it was a serious difficulty." From his experience in preparing students for the various dental examinations, the author is well qualified to know what the extent of such a book should be, and, moreover, this experience has enabled him to place its contents before the reader in a clear, intelligible and available form. To quote again, Mr. Underwood states: "I have followed such unquestionably standard authorities that what statements it contains are true. The Pathology comes in the main from Billoth and Green, the General Surgery from Holmes, Gant, and Erichsen." In addition to these, many other well known names are mentioned from time to time, such as Lister, Tomes, and Savory. It is obviously unnecessary for us to criticise the intrinsic matter of a work which deals with facts and the most generally accepted theories; we have rather to consider the manner in which Mr. Underwood has treated the material at his disposal. In this we think, upon the whole, he has been quite successful, and his originality appears in the generally easy and explanatory tone adopted throughout. This feature is particularly marked in the definitions of morbid growths in the chapter on Tumours, and in the very able manner in which he has dealt with the extensive subject of Inflammation, its pathology, causes, and results.

The book is divided into fourteen chapters, and almost every paragraph has its title printed in italics, so that reference is easy. A feature of special interest to the student, no doubt, will be the appendix, which contains the examination questions for the Dental Diploma of the Royal College of Surgeons of England for the last eight years.

Whilst speaking most highly of Mr. Underwood's work as one intended for informing the dental student of the amount of surgery and surgical pathology likely to be required of him for examination, and as a useful means of refreshing his memory for the same, we should much regret if it should be regarded as all sufficient for the aspirant to the L.D.S.—that a book of 177 pages of not closely printed matter, should be thought to represent all the surgical knowledge a dental licentiate need possess. A dental practitioner may be called upon to tie an artery—the lingual or even common or external carotid, perhaps. We admit it is a very unlikely proceeding to be necessary, but still he should know how to perform such

operations; and here we think the author would admit that his work would be of little service to him. At all events, such knowledge may be demanded by an examiner; for instance, how other could the following question be satisfactorily answered? (June, 1879, Surgery 2): "What means would you employ to arrest hæmorrhage from an incised wound of the tongue?" We do not make this statement as suggesting that the work should contain such information; on the contrary, it is not a text-book of surgery, and we trust will not be regarded in that light, but for the objects contemplated by its author and in which we think he has perfectly succeeded.

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### Practical Demonstrations in the Working of Celluloid and Vulcanite.

DR. J. S. CAMPBELL, of New York, intends giving to the profession a succession of clinical lectures during the winter months on Celluloid and Vulcanite Dentures, at 27, Broad Street, Golden Square.

Dr. Campbell in his first course of six demonstrations gave considerable time and explanation to the advantages of his dry and moist heat vulcanizer, which is adapted for the preparation of both Celluloid and Vulcanite Dentures. To give a graphic description of Dr. Campbell's patent would require many drawings; suffice it to say, that after seeing several cases prepared we can speak in the highest praise of its adaptation and usefulness.

Dr. Campbell's method of preparing Celluloid differs only in a few points from descriptions already published.

His Dentures are complex in nature.

1st. The most simple type is Celluloid base and ordinary Celluloid teeth, gum teeth, mounted in Celluloid base.

2ndly. Vulcanite palate (black), faced with Celluloid as artificial alveolar process and mucous membrane.

3rd. Gold Denture, Vulcanite mountings, faced with Celluloid, &c., &c.

In the preparation of these dentures he gives great attention to his plaster model; for all undercuts he adopts core for his tin model casting, he prepares a groove on the plaster model at the termination of the hard and commencement of the soft palate. He entirely disapproves of any suction chamber, or projecting



lining. He gently scrapes the plaster model on its buccal surface, continuing the groove to the second bicuspid, though not so marked as on the palate.

In setting up he prefers pure brittle paraffin; covers the palate and spaces with paraffin sheeting the thickness he intends the future denture to assume; on this a thin layer of tin foil: then mounts paraffin blocks for articulation. After special care to secure a most accurate bite, he proceeds to cast his articulator; when complete he lifts the tin foil and surplus paraffin, leaving his plain paraffin sheet on the model, if this sheet is cracked in the centre of the palate the bite is imperfect,—a good test of bad work—and arranges, as before, to secure a more perfect adjustment.

The selection of teeth is his next care, a duty requiring every attention and every consideration. After mounting his teeth, and adjusting each tooth most accurately to its opponent by means of his articulator, he proceeds to obtain well-marked rugæ by a plan peculiarly his own. From a well-marked fancy cast with good lines of rugæ he obtains a fac simile by placing tin foil and burnishing it to the model. Then melting paraffin on the under surface, this is placed on the prepared set up in situ; cover the whole set up with thick tin foil, burnish with heated burnisher—blood heat—trim around the necks of teeth, the teeth appearing through the tin foil. Stipple the front gum; the set up is then ready for sinking. A cast of pure tin is necessary for sinking; obtain a polished surface by care in melting; keep the sides of the ladle free by stirring with spatula. He reduces the height of long teeth and removes the bulbous fulness of canines, bicuspid, and molars. This facilitates the removal of the celluloid denture from the tin model after cooking. (Caution.—The file is only used after the set up is complete.)

Dr. Campbell's patent flask is an improvement on any other extant. The side bolts are rotary, tapered cones bent outwards and secured by pins when the flask is closed. When first adjusting the two halves of the flask the bolts incline forwards, giving a sloping position to the upper half of flask, assuming the perpendicular position when closed.

To assist this action he provides in sinking a space between the back of the model and inner surface of flask by a padding of paraffin. This enables the operator to adjust the hard celluloid to the front undercuts.

A series of woodcuts shall appear in a future number explanatory of the various stages of Dr. Campbell's preparation of celluloid dentures.

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### National Dental Hospital and College.

WE have just received the prospectus of the above Institution for the Session 1881-82. In addition to the information furnished with respect to the Hospital and School, the prospectus contains the usual useful instruction with regard to the course of study necessary for the fulfilment of the conditions required by the principal English Medical examining bodies for their various diplomas. In addition to the above, the Student will also find the arrangement of lectures and practical work for the M.R.C.S. and L.D.S. diplomas clearly set forth; indeed, these various prospectuses so readily furnish all the information a student may require, that a Students' number of our Journal would now be superfluous.

In looking over the matter of fees in the different departments of the Institution, we notice particularly that "Registered Practitioners" are entitled to reduced fees when attending the Hospital practice. We fail to see an intimation of this kind in the prospectus of the School of the Dental Hospital of London, and we much regret it. We speak with diffidence, but we believe we are right in stating that in this respect the Institution last mentioned differs in no small degree from most, if not all, of the general and special Hospitals of the metropolis, and to this matter we solicit the earnest attention of its Medical Committee. Surely, the desire of an earnest qualified practitioner to improve himself should be encouraged to the utmost extent. That the National Dental Hospital and School is in a prosperous condition and doing a genuine and useful work is a subject for congratulation, nevertheless, we cannot but regret that an Institution of such dimensions should have been betrayed into the snare of dignifying itself with the high-sounding title of Hospital and College. A Hospital really means an institution for reception and lodgment of patients, nevertheless, the term has been extended to such as merely succour at the moment, and which do not receive and lodge the sufferers. But with regard to the term College, this surely conveys the idea of something more than a place at which lectures are delivered and

practical instruction afforded. The prospectus of the most ancient and now highly prosperous School of St. Bartholomew's Hospital is headed "St. Bartholomew's Hospital and College," but then we find the following in the short history given of the Foundation:—"In 1843, the Governors founded a College, to afford the pupils the moral advantages, together with the convenience, of a *residence* within the walls of the Hospital, &c...."

With great candour, but perhaps smaller credit, the prospectus publishes the names of those who as pupils of the National Dental Hospital and College have obtained a qualification since the year the Institution claims for its commencement, viz., April 20th, 1860, which number 31. Of this number two only have taken an additional qualification to the L.D.S., and of these one was only a partial student there. Of the L.D.S.'s, only 17 have obtained the diploma of the English College, and of these, we believe, three were but partial students.

It is in no unfriendly spirit that we make these observations. We have marked with interest the great progress made in the Institution in Great Portland Street during the last few years; we observe in it a vitality which is a sure sign of success, but we would rather see high-sounding titles reserved until the success we anticipate has been accomplished.

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### Edinburgh Dental Hospital and School.

WE have received the prospectus of this school for the approaching session, and gather from it that the Staff are determined to maintain and extend the excellent character which the school has already earned. In addition to lectures on all the special subjects required by the curriculum, as prescribed by the Medical Council, the Edinburgh students have the advantage of a course of demonstrations in gold filling, which are given twice a week throughout the session, and for which no extra charge is made. There is also a special course of demonstrations in Mechanical Dentistry. The many advantages offered by the Edinburgh School, including a most active and efficient staff of instructors, cannot fail to attract a good class of students.

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## Correspondence.

We do not hold ourselves responsible for the views expressed by our Correspondents.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

SIRS,—Having received an application to make myself responsible for a sum for a guarantee fund, for the avowed object of "obtaining a correction of the Dentists' Register," in other words, the prosecution of some individual who has, in the opinion of the Representative Board, got his name illegally placed there, as a warning to all such like to remove theirs, should the said prosecution prove adverse to the defendant, I should like before committing myself to express the following opinions.

The Representative Board recently obtained for the benefit of the Medical Council a legal opinion of great value, and second to none in this country, which clearly showed that the latter had allowed a number of names to be placed on the Dentists' Register which had no right to be there, and the same opinion further suggested "that practically the only means of obtaining a judicial decision will be for the Council to expunge from the register the name of some person who, according to the view we have taken, was not entitled to be registered. . . ."

Now, Sirs, I think the fact of your wishing to depart from the suggestion of your own advisers will, not unnaturally, be regarded as a somewhat aggressive act, and having the semblance of that element in Trades' Unionism which all educated minds naturally detest. It is neither my place nor in my province to question the manner in which the names of persons clearly ineligible to be so, were entered upon the Dentists' Register; the fault, if any, lays at the doors of those who framed the Dentists Act or of the Medical Council. Nevertheless, whose ever be the fault, such as are on the Register, in no manner appear there either by the action or the neglect of the British Dental Association. Some who took scare at the warnings of our esteemed Secretary, voluntarily removed their names, but the Medical Council invited them to return without fee or hindrance. The Medical Council whose duty it would clearly be to remove such, after the opinion sent to them, will no doubt hesitate to do so, even though convinced of their illegal registration. In this confused state of matters, I would ask you is it worth while for our Association to do more than to leave in



the hands of the Medical Council the opinion of Messrs. Holker, Wright, and Fitzgerald, and with it the onus and responsibility of acting upon it or otherwise.

Let, I would suggest, any guarantee fund that may be organised, and to such I would gladly subscribe, so far as my means will justify, be reserved for the prosecution of those who may, and will no doubt hereafter, illegally assume the title of Dentist, Dental Surgeon, Surgeon-Dentist, Dental Licentiate, &c., and not of such who, by some blunder, have got on the Dentists' Register, and whose names will, in probably shorter time than would be imagined, gradually disappear from it.

I am, Sirs, yours &c.,

A COUNTRY MEMBER.

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### PRACTICAL DEMONSTRATIONS IN GOLD FILLING.

TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

GENTLEMEN,—You referred in your last number to the great interest which the practical demonstrations in Gold Filling, which took place at the Dental Hospital of London during the week of the Congress, evidently excited in the minds of the majority of the regular attendants at Section XII. In this connection would you allow me to notice the very instructive series of "Clinics," which were given daily by Dr. Parmly Brown, from August 24th to August 30th, at 27, Broad Street, Golden Square. On the day when I happened to be present, the tooth to be operated on was a first upper left molar, the crown of which had been to a great extent destroyed by caries; it had at one time been plugged with amalgam, which had, however, fallen out. Having applied the rubber-dam by means of his very convenient special screw clamp, Dr. Brown began by cutting down the thin walls, and carefully preparing the extensive cavity; he then freely cleared out the nerve canals, purified them with carbolic acid, and immediately filled them to the apex with pure gutta-percha. He then introduced Williams' cohesive foil into the lower third of the nerve canals, serving as retaining points, using two serrated points held in either hand. The building up of the crown was accomplished with the electric mallet, a most perfect contour stopping being the result. The operation was witnessed with the closest attention by a class of about five-and-twenty practitioners, who evidently fully appreciated

Dr. Brown's skill, as well as his efforts to make all the steps of the proceeding thoroughly comprehensible.

These demonstrations, I feel assured, cannot fail to produce good effects, and I am glad of this opportunity of thanking Dr. Brown and his *confrères* for the trouble they have taken, and of wishing them, though rather late, '*bon voyage*.'

I would take the opportunity also of expressing my astonishment at finding that amongst the number of practitioners who seem to be anxious to obtain opportunities of improving their operative skill, so few appear to be aware that clinics of a precisely similar character to those which they witnessed during the Congress week, take place every day at two Hospitals in London, not to mention Edinburgh, Glasgow, and other provincial schools, at which for a very moderate fee all practitioners should not only be able to see these operations performed, but also to have a chair, and practise what they learn. In the advertisements which are constantly inserted in the journals, the idea seems to be conveyed that these facilities are intended solely for the benefit of students, and are only available for those who enter for the whole Dental curriculum. Primarily, of course, this is so, but subject to certain restrictions as regards numbers, these demonstrations should certainly be open to all respectable practitioners who desire to improve themselves in practical work, and I feel sure that many of these, if they would only make up their minds to the necessary sacrifice of time, would be both pleased and astonished to find how full and complete is the course of instruction now given at our principal Dental Colleges in this most important department of Dental Surgery.

I am, Gentlemen, yours, &c.,

A LONDON PRACTITIONER.

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TO THE EDITORS OF THE "JOURNAL OF THE BRITISH DENTAL ASSOCIATION."

GENTLEMEN,—Will you allow me space to make known that, having in deference to the wishes of friends who do not see the medical journals, printed the Addresses connected with Section XII., in pamphlet form, a copy may be had by any member of the Congress desiring a souvenir of that event, by communicating his wish to

Yours very truly,

EDWIN SAUNDERS,

13A, George Street, Hanover Square.

### Swallowing Artificial Teeth.

ONE of these much too frequent accidents is recorded in the *Lancet* of September 3rd. A woman, aged 57, swallowed during the night a small plate with two upper centrals attached. She was taken next morning to Charing Cross Hospital, suffering from symptoms of asphyxia and severe local pain. The House Surgeon, on passing his finger down the patient's throat, found that he could just reach the plate, which was impacted about an inch below the epiglottis, and after some trouble it was extracted by means of œsophagus forceps. The patient quickly recovered.

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### Cutting Teeth late in life.

APROPOS of Professor Owen's remarks on this subject in his address on the occasion of the Distribution of Prizes at the Dental Hospital of London, Mr. William Warr, of Barnsbury, writes to say that two instances have occurred in his own family of supernumerary teeth being cut late in life. "My mother cut one at the age of 66, which has taken the place of the right superior central, but which closely resembles an upper canine with the cusp worn off. My grandmother, who died aged 94, cut four teeth in the upper jaw when she was between 80 and 85 years of age, but I am sorry to say I did not have an opportunity of taking an impression of her mouth. They remained perfectly sound and firm up to the time of her death."

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WE have received some specimen instruments from T. Hallam jun. (late with S. S. White), of 21, Loveridge Road, Kilburn. We can, as far as possible after a slight trial, pronounce favourably upon them, and recommend them to the public as quite equal to White's.

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### TO CORRESPONDENTS.

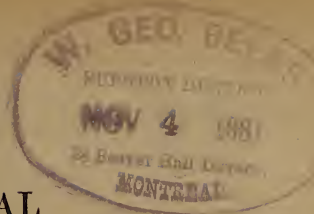
NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.O.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.



# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A  
*MONTHLY REVIEW OF DENTAL SURGERY.*

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# British Dental Association.

(INCORPORATED JUNE 3rd, 1880).

## LIST OF THE EXECUTIVE OFFICERS AND MEMBERS OF THE REPRESENTATIVE BOARD FOR THE YEAR 1881-82.

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JAMES SMITH TURNER, M.R.C.S., L.D.S.Eng.,

*Hon. Secretary.*

\* \* \* The above should have appeared immediately after the Annual General Meeting, but was omitted on account of press of matter.

## THE MEDICAL DIRECTORY.

With a view to an arrangement for the continuance of the List of Dental Licentiates in the Medical Directory, Messrs. Ash have kindly consented to act as Agents for the supply of the work to the Dental profession, and all practitioners are particularly requested to order copies of the Directory for 1882 ONLY through this channel.

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# THE JOURNAL OF THE BRITISH DENTAL ASSOCIATION

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*MONTHLY REVIEW OF DENTAL SURGERY.*

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No. XI.

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VOL. II.

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### The Session and its Work.

THE recess is over, and work in London has commenced in earnest. The several staffs of our Hospitals are at their posts, and lecturers and demonstrators are doing their utmost in the way of manufacturing good surgeons and good dentists. This manufacturing process, however, is a work of recent years, and whilst it has its advantages, it has also its drawbacks. But its advantages must be reckoned as almost necessities in the present day, when so much more is expected of the student than was required at the hands of his father or grandfather, and the former no doubt receives a much more systematic course of training than did the latter. Still, this outside assistance has no small tendency to destroy that inward independent spirit which gains so much by grappling with and overcoming difficulties, and which enables one man to rise so pre-eminently above his compeers.

Education, as effected by systematic instruction, is a great leveller. The general *status* of the mass is undoubtedly raised thereby, and it therefore becomes more difficult for even the man of transcendent talent to raise himself, as of old, to the demi-god position. That which enabled a man to raise himself so high in the estimation of his fellows is gone, viz., the patient working out on his part of problems which are now worked out for him by others—he has more or less become a machine rather than the force which should work it. We must bid adieu to the Hunters, the Abernethys, the Coopers, the Brodies, and the Lawrences of yore, not but that men as great or even greater will arise, but that the conditions of their surroundings will not permit them to be the men of equal mark. In our own specialty we shall never again behold the Foxs, the Bells, the Cartwrights, or the Tomes' in the distinctive characters in which these men have stood out.

We confess our words are not very encouraging ones to those who have just entered upon their work, and in the most ambitious frame of mind, hoping to obtain a good position in the history of great men. But to such let us point out that if the chances of their becoming very distinguished are not so great as they once were, they possess a far greater privilege, viz., that they can readily obtain a vastly larger amount of knowledge—knowledge of a higher and more certain character—than was ever attained to by any of the great names we have mentioned, a knowledge, too, which can render them vastly more useful to their fellow beings. It is our great privilege to live in the days when medicine is becoming one of the exact sciences, when symptoms are being read in the same light that the chemist reads the effects upon his test-papers and test-fluids; “our feet” begin no longer “to stumble on the dark mountains,” and the slur that medi-

cine is simply practised empirically, no longer appertains to it.

For many years Dental Surgery has enjoyed, and justly, the reputation of being one of the most, if not the most, reliable branches of the healing art, and its conservative operations have been recognised as some of the most perfect in surgery. But how much yet remains to be done! Where is to be found the satisfactory explanation of dental caries? And when the spaces it occasions are to be supplied, where is the material that fulfils all the conditions requisite? What is it that suddenly sets up periodontitis in a tooth which has been filled for years, and which is at the time of the attack in, apparently, as perfect a condition as heretofore? How are the teeth erupted? Why should upper first bicuspid more frequently possess two fangs than the second bicuspid? Our work is far from completed, and there are abundant openings for those who have recently entered our ranks to become men of renown and men of great usefulness; but to accomplish these ends they must rely upon themselves rather than upon others.

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### Tic Douleureux, or Epileptiform Neuralgia,

BY ISIDORE J. LYONS, L.R.C.P.Ed., M.R.C.S., L.S.A.,  
L.D.S., &c.

AMONGST the causes assigned for this distressing complaint, whose origin is nearly always hidden in obscurity, is that of carious teeth. In some such cases, if the real offender is discovered, the remedy will be certain and sure, and in others it may tend very much to alleviate the severity of the paroxysmal seizures, as the following cases may tend to show.

In June, 1876, Charles Antony, who was referred to me by Dr. De Haviland Hall, gave the following history of his case. For the last two years he had been suffering



from tic douloureux, the paroxysms of which had gradually increased in severity and frequency. The attacks from being weekly had become daily, and now were almost hourly. During the last seven months life had been a burden to him.

On examination of his mouth it was seen, that all the teeth of the upper jaw had been extracted at different times for the attempted relief of his malady, and opposite to the socket which had contained the left central incisor, there was a fistulous opening from which pus oozed. On passing up a small pair of bone forceps, with a view of making an exploration, the instrument grasped a hard body, which proved to be the dead bifurcated root of a bicuspid. This was at once removed; the patient rapidly recovered, and never had a recurrence of tic douloureux.

In May, 1881, Mary Brown, *æt.* 12, was brought to St. Bartholomew's Hospital and admitted into Mary ward, she had been suffering for some months from epileptiform convulsions attacking the right side of her body and face.

On examining her mouth, there were seen a number of unhealthy roots of teeth in the lower jaw, and in connection with, and at the side of the gum, appeared a dense hard growth which was moveable. On the face there was a scar of an old fistulous opening which had healed up. The patient was placed under an anæsthetic and the roots extracted. In a week the improvement in her health was so manifest, that she was discharged from the hospital.

John Benham, age 54, admitted to Henry ward, Sept. 23rd, 1881. In this case, it appears, the patient has been subject to severe neuralgia on the right side of the face for eight or nine years, and which had become much worse during the last five years. Twelve months ago it entirely incapacitated him from work for nine weeks, after which he improved a little. At first the attacks came on at intervals of some months, but now he has them almost hourly while awake. He gave up work a fortnight ago. Pulse is 72 and of good volume. As far as he knows,

none of his relations have suffered like he has, or have had any other nervous complaints.

On the 26th, in examining his mouth, the carious roots of two upper bicuspid on the right side were found to be loose, and the gum around them inflamed. On touching the posterior root, or that portion of the lip adjacent to it, a fit was at once induced.

The stumps and a lateral incisor, which was also very loose, were extracted. On the 28th he had four attacks.

On the 29th he had three; the pain is still especially felt at the socket from which the root of the posterior bicuspid has been removed.

Oct. 1st, one decayed root from the lower jaw was extracted; has had only one bad seizure during the last twenty-four hours. The bromide of potassium which he had been taking was discontinued. Oct. 6th, the improvement still continues.

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### Case of Successful Replantation.

By EDWARD FOTHERGILL, L.D.S., NEWCASTLE.

ON June 2nd, 1880, the Rev. B——, a young clergyman, brought to me his second superior left molar, which had been extracted by mistake. He had been suffering pain in the first molar adjoining, but his medical adviser, under a misapprehension, had removed the wrong tooth: on learning his mistake he suggested that I should replace it. Mr. B—— reached me about an hour afterwards, with the tooth in his waistcoat pocket.

There was a small defective gold stopping in the crown; this I removed, drilling through to the pulp-chamber and extracted the pulp. After applying carbolic acid to the nerve canals, and refilling the cavity, I shortened the fangs, and with a firm pressure re-inserted the tooth, which needed no ligature to retain it. A week after I again saw the patient: he had had but little pain; the tooth was firm, but there was a small sinus opening from the palatine root.

November 1st, 1880, Mr. B—— called. The appearance of the tooth and gum was normal, and he could use it with as much comfort as any other; it was, in act, as firm as before.

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## On the Nature and Mode of Origin of the Lead Line in the Gums.\*

By C. HILTON FAGGE, M.D., F.R.C.P.

Physician to, and Lecturer on Pathology at, Guy's Hospital.

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MORE than thirty-four years ago, Dr. Henry Burton, in a communication to the Royal Medical and Chirurgical Society, pointed out that in persons under the influence of lead a peculiar blue line could be discovered on the borders of the gums. Mr. Tomes subsequently gave a tolerably complete explanation of its production. But I am not aware that the microscopical appearance of the gingival structures when affected by the metal has hitherto been demonstrated. And having recently had opportunities in two cases of investigating after death the nature of the change, I think it may be interesting to the Society to have my observations brought under their notice, particularly as I believe that they afford grounds for defining, more accurately than has hitherto been possible, the conditions under which the lead-line is developed.

Another circumstance which makes me desirous of drawing the attention of the profession to the subject is the fact that some of the most recent writers on medicine give descriptions of the affection of the gums caused by lead which seem to me inaccurate and misleading. Thus an eminent physician, lately deceased, spoke in his lectures (published in the *Lancet* in 1872) of "a bluish-purple line next the teeth, and encroaching on them;" and Dr. Aitken, in his well-known text-book, says

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\* Although this paper was published some time since in the *Transactions of the Royal Medico-Chirurgical Society of London*, we believe that it has not been specially brought before the notice of the Dental profession. We understand that Dr. Fagge is still pursuing the subject and that a further communication from him may be expected.—ED.

that the metal produces ulceration of the gums and alveolar processes, accompanied by a peculiar blue line . . . along the free margin of the gums. And further on, he remarks that "Many pathologists are inclined to believe that the line is owing to the presence of lead in some peculiar state of combination, as with some of the constituents of the tartar of the teeth." Dr. Burton, however, described the line as on the gums themselves; and he expressly stated that "there was no invariable tumefaction, softening, or tenderness about them," while in another place he seems to have implied that when the gums were ulcerated, tumid, or detached from the teeth by incrustations, such conditions were due to neglect rather than to the metal.

One character of the lead-line, which I have never seen mentioned in print, was some years ago pointed out to me by Sir W. Gull; namely, that it is not continuous, but consists of a series of dots arranged side by side at pretty uniform distances. He used to say that the dots corresponded with vascular points which exist in the normal mucous membrane; and any one who will look at the gums of a few healthy individuals will find that they often present a row of reddish spots, which are precisely similar in position and in size.

The method which I have adopted in examining the lead-line after death, has been to slice off a thin layer of the tissue of the gum at the margin next the teeth, and place it beneath the microscope, using a rather low objective. It is then seen that the discolouration is not uniform, but is distributed in the form of rounded loops, some of which look like minute papillary processes of the deeper layer of the mucous membrane, while others seem to be portions of blood-vessels. Under a higher power the pigmentation is seen to be caused by the presence of granules, which may be scattered at a little distance from one another, or collected into dense masses. I have satisfied myself that these are sometimes situated in the interior of the smallest blood-



vessels, and sometimes outside them in the tissue immediately adjacent to their walls.

When the lead-line is well marked it may regularly surround the bases of all the teeth. But it is, perhaps, more commonly imperfect in its development, and then there may be merely two or three dots here and there; generally, these are to be seen in the little processes of gum, which project between the teeth, rather than in the notches which correspond with their centres. On the other hand it sometimes happens that the discolouration is present in what may be termed an exaggerated degree. The margins of the gums may then be uniformly blackened, no separate dots being discoverable; and the staining may extend over the mucous membrane covering the whole of the alveolar process, and even show itself upon that which lines the lips and the interior of the cheeks. In the summer of 1875 a patient was in Guy's Hospital under my care, in whom the inner surface of the lower lip presented a black zone of considerable depth. Some observers have thought that the teeth themselves may become blackened from the same cause; and Mr. Tomes speaks of the tartar as being similarly discoloured, especially where it is in contact with the gum. But I hardly think that this can be the case; and I should be disposed to regard any such appearances as accidental, since they are by no means uncommon in persons who cannot be supposed to be under the influence of the metal.

However this may be, it is clear that the so-called blue line is itself really *in* the gum and not *on* its surface. And the blue colour seems to me only apparent. When examined with a lens during life, the dots which make up the line are seen to be black. My friend, Dr. F. Taylor, has suggested to me that the reason why as a whole it looks blue is that much of the pigment is seen through a comparatively thick layer of translucent tissue. There are many other examples of black pigments which seem to be blue when embedded in or beneath similar fibrous textures.

Mr. Tomes some years ago suggested that the colouring

material in the blue line on the gums was probably a sulphuret of lead, and he pointed out that the tartar about the teeth is so porous as "readily to admit into its substance fluids charged with animal matter, which may there be decomposed and furnish sulphuretted hydrogen." We are now able, I think, to form a still more accurate conception of the mode of production of the line than seems to have suggested itself to Mr. Tomes. We see that the sulphuretted hydrogen must diffuse itself into the gingival tissues, and combine with the lead as it is actually circulating in the blood which passes through the vessels of the gum, or as it is contained in the plasma which oozes out of the vessels for the nourishment of the epithelial and other structures. If the lead were previously in combination with the elements of the connective tissue of the gum, the line would not to the naked eye appear dotted; nor would it present the loops and serpentine coils which are seen under the microscope.\*

It appears to me probable that the sulphuretted hydrogen is often derived directly from portions of meat or of other animal food, which may have become wedged in the angles between the teeth, and undergo decomposition there. For, as I have already remarked, when the line is imperfect the dots which represent its rudimentary condition are often limited to the processes of gum which project upwards into those angles.

Mr. Tomes offered, as an alternative, the suggestion that the sulphocyanogen of the saliva might possibly furnish the sulphur for the production of the line. But I think that this is negatived by the limitation of the line to the margin of the gum close to the teeth, and by the fact (which Mr. Tomes pointed out), that wherever there is a gap in the row of teeth the line is wanting. The

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\* My observations are, of course, incompatible with the view advanced by Naunyn in von Ziemssen's "Handbuch" (vol. xv, p. 263), that the lead probably enters the oral cavity from without in the form of particles of the metal. (Oct., 1876.)

influence of the saliva would be more equally distributed over all parts of the gums.

It appears, therefore, that the lead line may be regarded as a *precipitate* of the metal from the blood, or even, in some sense, as an *excretion*. This view affords an explanation of several points in regard to the line which have hitherto appeared of doubtful interpretation. One is the fact, noticed by Mr. Tomes, that it is sometimes seen in the gums of persons who are not known to have been exposed to the influence of the poison, and who have had none of its symptoms. Mr. Tomes himself suspected that other metals, besides lead, might sometimes give rise to a similar discoloration. The late Dr. Brinton\* considered that in some patients who had taken bismuth he had seen an affection of this kind. But it appears evident from his brief description that he was referring to the reddish-purple border which is commonly present when the gums are in an unhealthy state, and which is altogether different, being simply due to vascular injection. If any other metal were really capable of producing a line resembling the lead line, I think that the fact must before this have become fully recognised. It seems to me probable that whenever the appearance in question is observed, even though the person may present no other indication of having been affected by the poison, it is really caused by lead, but that this metal has in such cases been taken into the body in quantities too small to give rise to symptoms.

The black line being a precipitate of sulphide of lead from the circulating fluid, one can see how it might be produced in course of time by the action of sulphuretted hydrogen on the blood constantly flowing through the gingival vessels, although the amount of the metal present in the body at any one moment might be almost infinitesimally minute, and even although the total amount present during all the time in which the line was in process of formation, might be quite inconsiderable.

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\* "Brinton on Ulcer of the Stomach," 1857, p. 118.

It is, indeed, a difficulty which stands in the way of the acceptance of this hypothesis, that the lead line in the gums seems not to be permanent, at least in many instances. Dr. Burton mentions that in a few of his cases it had actually disappeared before the patients left the hospital. Probably it may pass off, if the absorption of the metal ceases, even though the internal structures may still retain the deposits of lead, which are known to occur in those who have been exposed to its influence. I do not know in what other way one can explain the fact that the administration of the iodide of potassium to a person who has been poisoned by lead, but who is placed under conditions which no longer involve its entrance into the body, is sometimes followed by the development of a line on the gums which had previously been wanting. I have observed this on three occasions at least, and Dr. Frank Smith, of Sheffield, has independently noticed it. It is strictly parallel to the well-known circumstance that when iodide of potassium is given to a patient affected with chronic plumbism, but withdrawn from the direct influence of the poison, the urine begins to contain lead, although none could before be discovered in it. The only difficulty is to understand how the lead line came to be absent until the iodide began to be administered. But this difficulty is removed by the supposition that it really had existed at one time, but had disappeared during the interval that had elapsed since the metal ceased to be absorbed.

Another conclusion, which is deducible from the view suggested by Mr. Tomes with regard to the line in the gums, is that in a person who keeps his teeth clean it may be wanting even though he may be really suffering from lead-poisoning. I have long made it a rule to attach no importance to the absence of the line in individuals with very clean teeth and gums: but I cannot cite any case in which my caution was justified by the result. I have, however, more than once told a patient to leave off cleaning his teeth when he was taking iodide of potassium, in



order that the conditions might be favourable for the development of the line.

It ought also to follow from Mr. Tomes' theory that the sulphide of lead should be deposited in all other parts of the body which are exposed to the influence of sulphuretted hydrogen. This gas is often present in the intestine, the mucous surface of which ought accordingly to be blackened, at least as much as the gums. I am not aware that this has hitherto been noticed; but it is possible that the frequency with which the intestinal lining membrane is found discoloured under other circumstances may have prevented observers from attaching any importance to such an appearance, even if it should have been present. In November, 1875, I made an autopsy in the case of a man, æt. 43, a painter, who had had colic fifteen years back, and who, while in the hospital, had complained of pain about the splenic flexure of the colon. I found in this part of the bowel, as well as in the transverse colon, some scattered cicatrices, with puckering of the mucous membrane. They were slate-coloured, but I did not at the time notice that their appearance differed from that of the scars which are found after ulceration from dysentery or other causes.

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## International Medical Congress.

### SECTION XII.

*Friday, August 5th.*

THE President, Mr. EDWIN SAUNDERS, took the chair at 10 o'clock and the proceedings commenced with a paper by Dr. W. H. Atkinson, of New York, on "The Reproduction of Bone, with especial reference to the variable portions of the Maxillary Bones." In this he opposed the old idea that necrosis was certain death to a given territory of bone, and that the surgeon should wait until a line of demarcation appeared and the necrosed portion was disposed to separate spontaneously, before he interfered. He (Dr. Atkinson) contended that the dead and dying portion of bone should be cut away at once. Necrosis was a result of debility, and by thus removing all dead and greatly debilitated material a

better supply of pabulum was secured for the surrounding portions which had as yet maintained their vitality.

Dr. WALKER then proceeded to open a discussion on "Premature Wasting of the Alveoli and its Amenability to Treatment." He directed attention to a series of microscopical specimens, which Dr. Heneage Gibbes had kindly given him most valuable assistance in preparing, illustrating the normal production of bone in a socket after extraction of a tooth, the normal absorption of the socket, and the normal absorption of the fang of a temporary tooth. He explained by means of diagrams the chief points shown by these specimens and pointed out the essential differences between this normal process and the abnormal action which was seen in cases of premature wasting of the alveoli.

After the extraction of a tooth effusion took place from the peridental membrane and periosteum, and this was followed by rapid cell proliferation; this was very active round the margin of the alveolus, across the mouth of the socket. The same process went on almost simultaneously in other parts, new bone being formed at the bottom and on the sides of the socket.

In one of the sections certain multi-nucleated cells would be seen in connection with the external periosteum; these cells had the power of absorbing and excavating the surface of the alveolar process by acid secretion; thus, by absorption of the superficial, and new formation at the deeper portions of the alveolus, were brought about the changes which normally followed the extraction of a tooth. In the case of the absorption of the root of a temporary tooth the process was precisely similar, being brought about by an increased development of the multi-nucleated cells before mentioned.

The pathological specimens proved diminished vascularity and increase of the fibrous tissue of the periosteum, due to the establishment of a subacute inflammatory process in the alveolus, and its ultimate destruction by inanition; the loss of the socket being due to an inflammation originating first of all in the periosteum and then extending to the bone. And it was a point of interest to account for the readiness with which this subacute inflammation passed from one structure to the other.

Dr. ARKÖVY (Buda-Pesth) said that he assumed that the subject of the discussion was the disease which was known to him by the name of *Pyorrhæa Alveolaris*, or Riggs' Disease. This was a very common disease in Hungary, and he had made numerous

enquiries and experiments with the view of elucidating its etiology and pathological anatomy. In particular he had made careful microscopical examinations of the pus obtained from these cases, and he found that, besides pus corpuscles, threads of *leptothrix buccalis* were always present in abundance. He noticed also that if he did not press down the covering glass, thicker threads were seen, ten times the size of the *leptothrix*, and marked with longitudinal parallel lines, and he found that besides this the pus frequently contained masses of glia, in which sphero-bacteria were embedded. In order to make out the connection, if any, between these several bodies, he put some of the pus into a watch glass with some sugar and water and a few shreds of meat, and kept it carefully covered in a warm place, and he found that the sphero-bacteria regularly developed into *leptothrix*. After two or three days little sacs appeared in the transparent matrix, or glia, in which the sphero-bacteria were included; these closely resembled the *ascococcus* of Bilroth. After seven days these sacs burst and the rope-like bodies appeared, and from these again were developed the well-known *leptothrix*. Under these circumstances he concluded that this fungus was intimately connected with the origin of *pyorrhœa alveolaris*.

Dr. JOSEPH ISZLAI said he had witnessed and repeated Dr. Arkövy's experiments, and could fully confirm his results. Of course, besides *leptothrix buccalis*, various other similar bodies were met with, as the spores of *pencilium* and *muco-mycelium*, but these appeared to be present accidentally and to have no necessary connection with the disease.

Dr. RIGGS (Hartford, Connecticut) said he wished to state that the nomenclature of this disease had not originated with himself, but some of his friends had thought fit to name it after him in recognition of the work he had done in connection with it. He had been occupied for the last forty years in tracing out this disease, having been led to do so by the very unsatisfactory accounts of it which he found in the text-books. This was before much attention was paid to microscopy, at least in connection with dentistry. He would not go into any theories with regard to this disease, because theories had been set aside and had been superseded by clearly demonstrable facts, though the subject might still claim the attention of the younger members of the profession throughout the world. He found that the disease arose in the first place from a congested state of the margin of the gum round

the neck of the tooth. Thus he had seen in the case of a patient 14 years old, the margin of the gum swollen, congested, of a dark liver colour, and bleeding at the slightest touch; very little pus would be observed at this early stage, this did not appear until the second stage was reached. This consisted, as had already been pointed out, in the spread of the disease to the edge of the alveolar process, the bone rapidly became involved and the margins of the alveolus became broken down; now there was a discharge of pus tinged with blood. The margin of the alveolus was not eaten away smoothly but very irregularly, so that spiculæ of bone were left isolated and these became necrosed.

The obvious and only proper treatment for the cure of this disease was *surgical*. No injection of aromatic sulphuric acid, or anything else, was necessary; nothing was required but the delicate, yet firm, hand of a surgeon who knew what to do. It was impossible for the eye to follow the instrument; the eyesight had to be transferred to the fingers' ends. The operation required careful manipulation and a nice distinction between live and dead bone and between calcareous and other deposits on the tooth and the tooth itself. The necrosed portions of bone must be taken away entirely. So much of the peridental membrane as had been destroyed by the inflammation was gone, never to be restored; but in his experience 90 per cent. of these cases could be radically and effectively cured. He would conclude by asking those present to investigate the subject for themselves, and he felt sure they would be able to confirm his views. It was not a matter of theory; he had been over the ground so often that he could vouch for the truth of what he had stated and could demonstrate it whenever he had an opportunity.

Mr. WALTER COFFIN said his father's treatment of this disease had been wonderfully successful even in cases which had defied Dr. Riggs' mechanical process. His treatment consisted in the removal by mechanical means of the bulk of the disorganized and diseased tissues, and then in the application, very carefully to the exact point required, of the strongest liquid form of carbolic acid which could be used, *viz.*, hydrate of phenyl; the ordinary solution of carbolic acid was too weak for the purpose. When applied to healthy gum this only caused whitening, but in cases where this disease was well marked it caused a black discharge. It was applied on thin pieces of matchwood passed down by the side of the neck of the tooth, and the application might have to be repeated.



The mouth was left of course with a considerable loss of gum tissue round the tooth. He thought the good results of this treatment went to confirm the theory which had been advanced that the disease was due to the presence and retention—however generated, whether by the mechanical irritation of tartar, by the presence of necrosed bone, or otherwise—of some form of fungoid growth, it might be a new species or some form of the already known *leptothrix buccalis*, which underwent complete destruction by means of this antiseptic treatment. He had been disappointed at hearing Dr. Riggs say that he considered mechanical treatment by itself to be sufficient, since it was his opinion that the application of antiseptic agents had been the chief cause of his father's great success.

Dr. RIGGS answered that he could only say that he found he had no occasion to use acids, and he thought that if healthy resolution could be obtained without having recourse to them it was better than breaking down the tissues still more by the introduction of these agents.

Mr. WALTER COFFIN thought Dr. Riggs was to be congratulated on having been successful without the use of acids. Other practitioners would be only too glad if their experience had been the same.

Mr. OAKLEY COLES doubted the expediency of treating the disease as merely a local ailment; he was disposed to attribute it to impaired general nutrition. Nor could he regard any form of *leptothrix buccalis* as being the cause of the disease; he thought that this was only an incidental feature and that its presence was due to the fact that the *cul-de-sac* formed round the neck of the tooth was favourable for its development. Inflammation commencing at the margin of the gum caused the separation of the peridental membrane from the adjoining structures; suppuration followed and the peridental membrane became gradually destroyed. At the same time there was a gradual deposit of tartar in this space, the peculiar form and arrangement which it took being, he considered, due to the nature of the surface with which it came in contact. Remembering the peculiar cancellous structure of the wall of the alveolus, it could easily be understood that tartar slowly deposited within it would take the impression of the surface with which it came in contact. As the origin of the disease was partly local and partly constitutional, so the treatment should be both local and constitutional; local sources<sup>†</sup> of irritation should be

removed, and the general health of the patient should be attended to. He feared that dentists, unless they guarded against it, were apt to localise their treatment to such an extent as to lose sight altogether of the connections of disease with the general economy of the human frame, and to regard as causes, conditions which were simply incidents.

Dr. FREIDRICHs thought that if cleanliness was more generally attended to, Riggs' disease would not be so frequently met with.

Dr. ATKINSON had observed that all carnivorous animals were subject to Riggs' disease, especially those that had but little exercise; and similarly people who eat large quantities of animal food were more frequently attacked by the disease than those who lived on less stimulating diet. At the same time he believed that good diet was a necessary part of the treatment, whilst as regarded local treatment he found a solution of chloride of zinc, about gr.xx. to an ounce of water, a very useful application.

Dr. RIGGS said he had found squirrels and dogs affected with the disease, but as to its being a constitutional disease he would undertake to produce it in the healthiest person by a very simple process. If they had a foreign body in the muscular tissue of the hand, and it was swollen to an immense extent with pus issuing from it, a good surgeon would make an incision and take out the foreign body. And having done so, he would not inject chloride of zinc or aromatic sulphuric acid, but would allow the wound to heal by the natural process after the operation.

Mr. J. A. FOTHERGILL asked Dr. Coffin whether in the cases in which he claimed complete success there had been in the first place any loss of the socket and much recession of the gum, and also whether after his treatment there appeared to be any reproduction of the socket and return of the gum up to the margin of the enamel?

Dr. COFFIN replied that when part of the socket had been destroyed it never became entirely restored, but in part it did, and the gum also.

Dr. SNOW (Harvard College) said that he happened to be a near neighbour of Dr. Riggs, and had seen all the cases of this disease which he had treated during the last six years, and could bear witness to his success in dealing with it. The most important question was not so much what was the cause or origin of the disease as what would cure it, and his experience was that the surgical treatment of Dr. Riggs invariably resulted in a cure.

He believed, however, that the disease had its origin in inflammation caused by the presence of foreign substances round the neck of the tooth, and not in any letting down of the tonicity of the system. It appeared to him that the alveolar process receded just as fast as the deposit grew upon the tooth, and when these were removed the tissues quickly returned to their natural condition. *Riggs' disease* might not be a good name, but the treatment should certainly be designated *Riggs' treatment*.

MR. CHARLES TOMES said that in a case in which a limited number of teeth were affected with the disease, as the patient was anxious to go abroad and certain success could not be promised him if he stayed, he (Mr. Tomes) had at the patient's urgent request extracted all his remaining teeth, and he should be happy to bring them for inspection; on many of the affected teeth there was not a scrap of tartar to be seen.

A member asked whether Mr. Tomes had any reason to think that his patient had ever been subjected to mercurial salivation.

MR. TOMES answered that he had no reason whatever to think so, and he believed that had this been the case the patient would certainly have informed him of it.

DR. WALKER said he had had two cases under his treatment which would he thought somewhat lessen Dr. Riggs' faith in the theory that the disease was entirely due to the presence of foreign matter. The first case was that of a lady, the wife of a physician, whom he had treated for years. When she first came to him he found pus issuing from the socket of each tooth on pressure, and after attending her for four years he found that at some periods of the year a much larger amount of pus would exude than at others; he also found a large ulcerated surface of mucous membrane over the labial muscles. Having tried every treatment, he at last advised extraction of the teeth, and this was agreed to. The ulceration was entirely cured on the right side, and in front, and also on the tongue, excepting one spot about a quarter of an inch long, at the ascending ramus on the left of the lower maxilla. There was more fulness of the mucous membrane on the left side than on the right, and he conjectured that the trouble might be due to the folding and rubbing together of the mucous membrane. By fitting a light denture so made as to distend this fold a cure was soon effected. The other case was that of a member of parliament who had tooth after tooth attacked with inflammation. After suffering agonizing pain for three days

the tooth was lifted in its socket, and he could obtain pus from the socket by pressure. Pressure applied over the roots of the teeth which were not so affected did not produce any pus.

He might add that his experiments with regard to the causes of the recedence and hypertrophied condition of the gum would not remain where they were.

The PRESIDENT having thanked Dr. Walker for his communication, a paper was read by Mr. John Tomes on "Dental Education and the means thereto," an abstract of which appeared in our issue of August 15th.

At its conclusion, the PRESIDENT said he felt that it would be an empty form to ask those present to support him in thanking Mr. Tomes for his paper. Finding such a number of distinguished professors and practitioners from all parts of the world present at the Congress, English dentists would have been wanting in their duty if they had not laid before their brethren some account of a scheme of education which had been occupying attention in this country for the last twenty years. Those who, like himself, could recollect the time when not only was there no school at which technical knowledge could be gained, but when there was also the greatest jealousy and desire to exclude dentists from the medical profession, could not help being struck with the extraordinary change which had taken place. And all might justly congratulate themselves at being able to show their distinguished visitors that the foundations of their educational system were broad and strong and calculated to produce a goodly edifice in the future.

Dr. BUTLER (Cleveland, U.S.A.) agreed with Mr. Tomes that the time when the highest degree of manipulative skill could be obtained was in comparative youth, and he thought the reader of the paper offered a striking example of what mature age and experience could do towards giving a younger generation a foundation on which to build a truly professional life.

Professor SHEPHERD (Harvard University) heartily approved of the opinions expressed and the position taken up by Mr. Tomes. From the experience of a good many years teaching in America, he was convinced that the problem as presented had been worked out admirably. Occupying the position of conservators of the health of the mouth, each member of the profession must be an expert handiworker, and any system of education that did not enable a dentist skilfully to preserve the organs upon which he worked was a failure. All education which might supplement



this one grand object, the salvation of the teeth, was admirable, and should be acquired as much as possible in addition to the practical ability to work successfully to secure this end.

Dr. HOLLANDER said that in Germany up to ten years ago, persons were admitted to the study of dentistry who could hardly write their own names or read a few lines of German. They came from barber's and blacksmith's shops, and so forth, and they were allowed to go to the universities and attend lectures where they picked up a little technical knowledge, but the state of the profession could be easily imagined. Since then, however, the standard had been raised, and the profession was now recruited from excellent men of good attainments who must know a little Latin, and a good deal of English, French, or Greek, and must know something of history, geography, and natural science. They were expected also to know enough anatomy, physiology, and chemistry to enable them to understand the lectures they attended, but in this they were generally deficient, and were consequently not able to understand as much as they should. A good many turned their attention to study again after passing, but he felt that a still higher standard of knowledge should be exacted.

Dr. TAFT said he did not know much about the position of dentistry in England fifty years ago, but on the other side of the water about that time Horace H. Haddon and the late J. Harris, had in their minds the idea of the systematic education of dental students by the establishment of professorships of dentistry in connection with the medical colleges, and they hoped in this way to obtain a realization of that which dentists had then been seeking for many years. The doors of the colleges were, however, closed against them; their propositions were not entertained, and they had to rest awhile. After a time, upon consultation with others, they determined to establish a special dental college in which all branches of knowledge appertaining to dental education should be taught. Accordingly a Dental College was established in Baltimore about the year 1843, which had been in operation ever since. Soon afterwards Dr. Harris conceived the idea of starting a second institution of the kind, and since then they had had many similar institutions established with the special object of giving a proper dental education. The result of this was that the status of the profession had been greatly elevated. Those familiar with the curriculum of the first college established, would remember how short it was as compared with the curriculum of to-day. The

main point originally was to give the technical education, which was regarded as all important, but by and by the desire for something more began to show itself. The effect was that the doors of the medical colleges which were at first closed to them were now open, and the dental profession was duly recognised, as was evidenced by the meeting that day of a Dental Section of the Congress. The special colleges in America had accomplished a work which would not have been accomplished without them; and had it not been for them, students might still be knocking in vain at the doors of the medical colleges. The doors of the universities were now being opened to them in all countries where the profession had any standing, but they should be careful that they did no injustice to the memory of those who had been the pioneers in this work.

Dr. MARSHALL WEBB (Lancaster, U.S.A.) then read a paper on "The Restoration of Contour, the only way to keep permanently separate the Margins of Enamel on Proximate Surfaces, and to prevent the Recurrence of Decay." Dr. Webb first described the plan he adopts of wedging the tooth to be operated on apart from its neighbour, so as to obtain room to work; this he does by means of wood, tape, or cotton. He then places gutta percha between the teeth until the irritation caused by the wedging has subsided. After sufficient space has been obtained, and the sensitiveness has subsided, he applies the rubber dam to the teeth thus separated and to the tooth adjoining each.

He then described his mode of preparing the cavity, cutting a groove along the buccal and palatal or lingual walls, but not in the cervical wall, just within the edge of the enamel, and making a starting point in some convenient part of the cervical wall. He then proceeds to fill the cavity, using cohesive gold foil—about 30 and 60 for large, and foil folded to No. 16, 20, and 24 for small fillings. This he packs carefully with the electro-magnetic mallet.

The chief point on which he insisted was, that in each and every case the gold ought to be built out to the original contour of the part. The original outline of the tooth must be fully restored, particularly the proximate surfaces of the bicuspid and molars. He believed that recurrence of decay was much less likely to take place where this full restoration of the contour had been made. This should always be done in such a way that the enamel of one tooth may be prevented from coming in contact with that of the next, and also so that there shall be no wedging

of food between the proximate surfaces thus restored. The so-called "permanent separations" should not be made, since the teeth seldom remain apart, generally coming together unless prevented by antagonists, and also because this rarely prevents disintegration of the cut surfaces. Full restoration of contour also protects the gum and prevents its recession, makes the tooth more useful for mastication, and is in every respect the best and most efficient mode of preserving the teeth and surrounding tissues.

The section then adjourned.

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*Friday.*

At 2 p.m. a joint meeting with Section VII. (Diseases of Children) was held in the room belonging to the Society of Antiquaries, Dr. Chas. West in the chair. The subject for discussion was "The Nature of Syphilitic Teeth and of Mercurial Teeth." Dr. Magitot, of Paris, opened the discussion by reading a paper on "Honeycombed Teeth regarded as an evidence of Infantile Convulsions." Dr. Magitot first gave a brief description of the external characters and histological peculiarities of the malformation termed honeycombing of the teeth, which he spoke of as a form of "erosion," and pointed out that its production was due to abrupt suspension of nutrition in the dental follicles. A very similar lesion was seen in the notches produced in the nails by certain acute diseases. He then endeavoured to prove that there was a constant relation between the presence of this lesion and the occurrence of infantile convulsions, and that there was even a numerical correspondence between the stages or notches produced and the convulsive crises. He asserted also that local correspondence existed between the part of the tooth affected and the amount of the tooth which would be formed at the particular time when the convulsions occurred. He then went on to refute the hypothesis which attributes this lesion to any illness whatever occurring in infancy, and to give his reasons for dissenting from the views of Messrs. Hutchinson and Parrot who attribute it to inherited syphilis.

Mr. Henry Moon said it might be taken for granted that all medical men would admit that hereditary syphilis was very apt to be productive of deformity of the teeth, but some considered that these deformities were not specially characteristic of syphilis, but might be due to other causes as well. This was, however, due to the fact that a great many had not a clear idea as to what were

the special characteristics of a syphilitic tooth. Of course, there were deformities which, though they might often be met with in syphilitic cases, were not actually due to this disease, but to other causes, and these were of no diagnostic value. But from the examination of a large number of cases he had for some years past been fully convinced that there were certain special malformations which might be invariably depended on as indicating hereditary syphilis, and he had brought down models and drawings illustrating this. In the absence of Mr. Jonathan Hutchinson, who would have been far better able to answer Dr. Magitot, he might say that Mr. Hutchinson did not regard as syphilitic those teeth that only presented pitted or defective enamel. These "honeycombed" teeth Mr. Hutchinson now called "mercurial," meaning that in a large majority of cases mercury had been the cause of the malformation, and he did not consider that they had any connection with syphilis, further than was accounted for by the fact that mercury was the remedy which was almost invariably administered in such cases.

For the information of those who had not given special attention to the teeth, he exhibited a diagram showing healthy teeth, those characteristic of syphilis, and those that were malformed through a deficiency of enamel. It would be seen that in the normal set the cutting edges of the incisor teeth touched each other, and that this part being wider than the necks, a space was left between the necks which was filled more or less by healthy gum. Then coming to the first molars, it would be seen that they were peculiarly angular teeth. But in the case of the syphilitic incisors, instead of the cutting edges meeting, the neck was wider than the cutting edge; whilst the first molars lost their angularity and became rounded and somewhat dome-shaped. The peculiarly characteristic form of the syphilitic teeth depended on a modification of the form of the pulp, and not on any fault of the enamel. Indeed, in a case which had not been treated with mercury the enamel would be white and perfectly hard, not thinner in one part than another. The alteration in the shape of the central incisors was due to an arrest in the development of the central lobe of the tooth, and a falling together of the lateral lobes, causing diminished breadth of the cutting edge of the tooth. The first molars, formed about the same period, were affected in the same way, being small and rounded. In the case of "mercurial teeth," if there were any diminution of the cutting



edge, it was due to the absence of enamel on that part of the tooth which was first formed. And this would frequently be also apparent on the first permanent molar, which would show absence of enamel on its masticating surface. In the case of the incisors, the defect in the enamel leaving the dentine thin and exposed, this might be worn away so as to form a curved line or semilunar notch, and this being mistaken for the typical notch seen in syphilitic teeth had increased the confusion between the two. But the notch, if present, in the mercurial tooth was due to the cause he had mentioned, whilst in the syphilitic tooth unaffected by mercurial treatment, it was not due to wear at all, but to arrested development of the middle lobe. His experience was that in a large number of cases these defects in the enamel were due to the administration of mercury in infancy, especially in the form of some very popular powders.

Mr. CHARLES TOMES showed a model of a mouth presenting all the characteristic features of Dr. Magitot's "erosion," and said he could confidently assert that the person from whom it was taken had never had an attack of convulsions. In fact she had been perfectly healthy during infancy, but at about three years of age suffered from a severe attack of true inflammatory croup for which she was actually salivated with mercury. The fact that Dr. Magitot applied the term "erosion" to a dental defect of a different nature to that which was usually so designated in this country was calculated to lead to still further confusion of terms.

Mr. COLEMAN said he had been a colleague of Mr. Hutchinson's many years ago, at the time when his attention was first directed to this subject. Beginning as a sceptic he believed he saw teeth of the syphilitic type in the mouths of persons who it would be impossible to suppose had suffered from the effects of inherited syphilis; but after a time he was driven to the belief that there could not be any doubt as to the connection between the cause and the effect. Since the subject was first brought forward at the Pathological Society he had had the opportunity of inspecting probably some thousands of mouths in the course of each year, and his conviction had from time to time become stronger, that in every case where the peculiarities pointed out by Mr. Hutchinson were observed, the individual was the subject of hereditary syphilis.

Dr. BLACHE said that with regard to erosion, or honeycombing, of the teeth, although it might be met with in syphilitic children, it was also frequently seen in children who were perfectly free from that taint.

Mr. HAYWARD, of Liverpool, related the case of a lady and gentleman, both healthy people, and certainly free from syphilis, who had a family of six children, all perfectly healthy, none of whom suffered from convulsions or showed any sign of constitutional taint. After the birth of the sixth child the father had connection occasionally with a lady who was suffering from tertiary syphilis, sleeping with his wife during the time. The latter became again pregnant and bore twins, both of whom showed signs of congenital syphilis. One died, but the other struggled through its numerous ailments. Its primary teeth were soft and black, in fact scarcely developed at all; and although no mercury was administered the permanent incisors were honeycombed like the "mercurial teeth" on the diagram. This child had never had convulsions or any nervous affection and, except a tendency to bronchitis, now enjoyed good health.

Dr. DALLY said the result of his enquiries had been that the appearances referred to by Dr. Magitot depended on a convulsive condition during infancy; in fact he had been a strong advocate of the truth of Dr. Magitot's conclusions. But after the opinions that had been expressed it seemed to him impossible to refer this form of deterioration of the teeth solely to the condition which Dr. Magitot had indicated.

Mr. JONATHAN HUTCHINSON said the difference of opinion between himself and Dr. Magitot might easily be explained by saying that they were speaking of totally different things. This became apparent on reading two sentences of Dr. Magitot's paper: first he described the honeycombed tooth and then he stated that he would refute the theory of Hutchinson & Parrot who attributed it to inherited syphilis. Now he, Mr. Hutchinson, said that honeycombing had nothing to do with syphilis. He objected also to the terms used by Dr. Magitot; terms should be used which were generally understood. Thus honeycombed teeth meant teeth which were pitted and deficient in enamel over a considerable portion of their surface, and this condition was usually associated with some form of stomatitis occurring in early infancy and caused by the use of mercury. He had distinctly stated that these teeth were not to be mistaken for, or confused with, the very peculiar typical malformations which he believed were really produced by inherited syphilis. These malformations had nothing to do with honeycombing; this had been stated over and over again, and woodcuts of the real syphilitic teeth had been published by himself and by

other independent observers. In fact his views had been confirmed by observers in all parts of the world. A central notch and a general dwarfing of the upper permanent centrals were the only features on which he placed any reliance as to the diagnosis of hereditary syphilis. But as it frequently happened that people who were the subject of hereditary syphilis had been subjected to treatment by mercury in early infancy, it followed that syphilitic patients would be very likely to display, simultaneously with the malformation characteristic of their hereditary taint, also the marks characteristic of stomatitis. Hence, it was common to see the honeycombed condition co-existent with the central notch and dwarfing of the upper centrals which he looked upon as evidence of inherited syphilis.

Before saying any more about the honeycombed tooth, he would make a few observations with reference to the value of the notched tooth in the diagnosis of inherited syphilis. First he would remark that only a minority of syphilitic patients presented the characteristic teeth. For instance in the case of a family whose antecedents he knew perfectly, only one child out of three or four, when the permanent dentition appeared, showed the characteristic teeth. It was certainly not a thing which was constantly present, and his impression was that it was only exceptionally present. That agreed with what occurred in the case of other syphilitic lesions; they did not occur as a matter of course. It was common for a lesion which was not infrequent, still to be wholly wanting in a great many cases. He could, however, speak with the utmost confidence as to the diagnostic value of these syphilitic teeth when they did occur. In some cases he should not have the slightest hesitation in declaring, from the peculiar form of the teeth alone, that they were the teeth of a person who was syphilitic. But side by side with these there were cases in which the teeth only furnished corroborative evidence, in which they were only slightly malformed, but still gave useful information, and by paying attention to the teeth, the real nature of a good many cases might be determined, which would not otherwise have been attributed to their proper cause.

It seemed to him, then, a little late in the day to have to defend the value of these teeth, investigated as they had been on all sides. He thought, however, that Dr. Magitot had made an important, valuable, and very interesting communication, and that there was very likely much truth in his suggestion that the

honeycombed condition of the teeth depended on the influence of the nervous system, especially as brought to bear through the influence of convulsions. Some years ago he had had a case in which the dentition was extremely remarkable, and he believed that the defective development of the teeth was due to some derangement of the nervous system; very severe infantile convulsions did occur in that case. The question was whether these honeycomb markings or flutings, on the teeth were directly due to convulsions or whether they were due to the remedies which were given for the convulsions, and which had the effect of producing stomatitis. He might have been wrong in believing that these defects were due to mercury, but he had produced evidence in favour of his belief, and also some evidence that convulsions were not the cause. For instance, he could produce a cast of teeth sent him by a medical man, taken from a relative of his own, with the whole of whose history he was quite familiar. This patient had been the subject of lamellar cataract and of convulsions, but had never taken mercury, and the teeth were quite plain and perfect. Probably the truth lay midway between his own opinions and those of Dr. Magitot, but he thought these points were certainly true, viz., that there were teeth typically malformed by syphilis, and that there were teeth defective in the development of their enamel which was due to stomatitis in infancy; and it was very possible that results very similar to those of stomatitis might be caused by influences brought through the agency of the nervous system and especially by the agency of convulsions.

M. Parrot wished to make three observations in reply to the arguments of Dr. Magitot. First, this alteration in the enamel regularly affected certain teeth, whilst others invariably escaped. Thus the second or third permanent molars were never affected, and the bicuspidis but very rarely. Why this immunity if the lesion was due to convulsions? Convulsions occurred at every stage of infantile life, and if they had any influence on this affection we should expect to find all or any of the teeth affected. Secondly, convulsions probably did not occur during intra-uterine life, *i.e.*, during the very period when the milk teeth and many of the permanent were developed. Thirdly, it was not likely that such grave defects in the dentine and enamel as occurred in the lesion under discussion, would be produced by convulsive attacks, which are generally of comparatively short duration.

M. Quinet thought that a disease like hereditary syphilis, which



often killed the child in the womb, and which left its characteristic traces in the thymus gland and the liver, would hardly leave the teeth untouched.

Dr. Magitot then briefly replied, and the meeting adjourned.

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*Saturday, August 6th.*

The business of the Section began at 10 a.m., Mr. Edwin Saunders, President, in the chair; Messrs. Arthur Underwood and W. J. Milles read papers relating to a joint investigation into "The Effects of Organisms upon the Teeth and Alveolar Portions of the Jaws."

MR. UNDERWOOD said that Mr. Milles and himself had been engaged for some three years in investigating the effects of the presence of germs upon the dental tissues. Their method of enquiry had been, first in the direction of microscopical observation of specimens of ordinary caries, and secondly, by means of experimental investigations made upon living teeth in the mouth and upon dead teeth in flasks.

(1.) With regard to the microscopical observations: they cut sections of carious teeth a few hours after extraction, stained them with methyl violet, and examined them under tolerably high powers with the uniform result of finding that wherever decay was visible, the dentinal channels were full of micrococci and bacteria; whilst beyond this, where the tissue was apparently healthy, these bodies appeared spread out in thin lines few and far between, gradually disappearing altogether as the really healthy dentine was reached. The experiments on living teeth in the mouth showed that caries could be arrested by the use of agents which would destroy these organisms, and would remain quiescent so long as a strictly aseptic condition could be maintained. Thus the progress of caries could be arrested by the use of iodoform or eucalyptus oil, and the use of these agents also caused the rapid cure of alveolar abscesses, except when dead bone was present.

MR. MILLES explained the nature of the flask experiments, which showed that artificial caries never simulated real caries, unless germs were present, and that, moreover, the peculiar forms of germ which caused the phenomena in the living subject, were necessary in order to produce it artificially. The results obtained by previous experimenters, although at first sight contradictory, would when properly examined be found to corroborate the views now put forward, for it would be found that wherever

experimenters had succeeded in producing caries artificially, the teeth had been exposed to septic conditions, and that where anti-septic agents, such as carbolic acid and creosote, had been properly used, no caries had resulted.

The authors' conclusions were: (1) That caries depends upon the action of germs, probably through the agency of an acid secretion. (2) That the exclusion of germs prevents the progress of caries and necrosis of the pulp contents, &c. (3) That their exclusion is practicable by the use of iodoform and eucalyptus oil.

The PRESIDENT having expressed the thanks of the section to the authors for their very elaborate and scientific series of experiments,

Dr. TAFT said that no doubt the experiments which had been made were interesting and well conducted, but dentists ought to be careful, in regarding them as an explanation of decay in the teeth as it occurred in the mouth. The experiments looked only in one direction. They were for the most part performed under a uniform temperature, and were carried out in the same fluid for a considerable length of time. What were the facts in reference to decay as it occurred in the mouth? There was, in the first place, a living tooth to be operated upon, and there were, in the next place, constant changes both of temperature and of fluids. Now one acid was developed, and now another, and then two or more simultaneously. The temperature of the mouth was perhaps nearly that of blood heat for a part of the time, but it was from time to time, very much below this, and these constant variations of temperature would have a bearing upon the teeth that were undergoing decay. Some people went about with the mouth more or less open; others always had it closed unless it was being used in speech or feeding. Some people inhaled through the mouth, others wholly through the nostrils. From these causes there was a constant variation in the temperature of the mouth; yet the variation did not cover a large range. These modifying circumstances necessarily modified the production of decay, and they ought to be taken into account. So far as his observations went as to any experiments which had been performed by others, there was no such thing as simulating or exactly reproducing out of the mouth, decay such as was found in the mouth, and this inability to simulate natural decay out of the mouth depended upon the circumstances which he had mentioned. If decay in the mouth was produced in

the manner which had been suggested by the authors, we should probably find a nearly uniform result; but the fact was that we found variety, some decay being of one kind, and some of another. When the organic material remained, as distinguished from the inorganic or lime salts, it presented under the microscope a variety of phases. Sometimes its structural character remained perfect to a very remarkable degree; in other instances the structural character was totally broken up. Sometimes the organic material remained so that the tracks of the tubuli were perfectly perceptible under the microscope, and in other cases these were totally obliterated.

Dr. DENTZ, Utrecht, said that they were greatly indebted to the experiments of Mr. Underwood and Mr. Milles, but their work, nevertheless, had a great resemblance to that which had been done by Leber and Rottenstein some years ago. The difference was that the present authors had more amply and profoundly investigated the subject; as to the conclusion, it was exactly the same. No doubt if Professor Wedl were present he would make the same remarks on the present series of experiments as he had done on those of Leber and Rottenstein. Mr. Tomes, junior, had lately in his work on Dental Surgery expressed the same opinion. He (Mr. Dentz) was strongly of opinion that the theory which had been put forward by Mr. Underwood and Mr. Milles would not long remain of any great value. Nevertheless, he had the highest respect for their work, and he must acknowledge that he should have liked to be able to perform it himself.

Dr. ATKINSON, New York, thought that, numerous as were the observations which had been made, the authors were not warranted in assuming that bacteria and micrococci were the immediate agents in the generation of what were termed acids, and that they had the power of undoing the combination of the elements constituting tooth tissue. To effect this there must be a current capable of awakening in the already formed structure a latent or sleeping energy stronger than the bond which subsisted between the molecular elements of the tissue when healthy or at rest. Then what had we? Simply a chemical question in that aspect. And he gathered that Professor Taft was of the same opinion, by the way in which he spoke of "organic" and "inorganic" material. Should he (Dr. Atkinson) be considered out of order if he invited attention to the inefficiency of past nomenclature to lead their minds to an understanding of the processes of the building up and breaking down of teeth?

The CHAIRMAN suggested to Dr. Atkinson that it would be better to keep to the point.

Dr. ATKINSON, continuing, said that the difference between organic and inorganic was but in degree as far as he had been able to investigate any change, and he thought that he was strictly within the explanation of the specimens, which had been presented for the purpose of proving that acid was necessary to the breaking up of the tooth substance—in other words, to dissolve it and produce an unhealthy condition. He had perceived that there was an intolerance of originality of thought and profundity of research in this body: he had been pained with it. He thought that it was strictly in order for him to speak of that subject now, so that he might enable young men to avoid the rock on which he had spent so much of his life uselessly. That rock was the acceptance of what was seen by others as real authority, without investigating the specimens for one's self, and receiving the illumination that came from a negative or enquiring state of the mind.

Mr. S. J. HUTCHINSON thanked Mr. Underwood and Mr. Milles for their three years of hard work. but he would ask them not too hastily to abandon the theory of the presence of tubes in dentine. They admitted that there were fibrils, and those fibrils ran in calcified structure. It was a little early in the day to say that a channel in which a fibril ran was not a tube, and he would fight to the end before he would willingly sacrifice the term dentinal tubules. He then read a quotation from a paper, which had been read on the previous day by Dr. Harley in the Pathological Section, which he thought afforded strong confirmatory evidence of the probable accuracy of the results which had been obtained by Mr. Underwood and Mr. Milles.

Mr. J. TOMES said he was not at all prepared to go into a criticism of the researches of the two authors, but he must say that the difficulties which had been raised were not to his mind valid. Dr. Taft had told them of the varying temperatures of the mouth, but he had not told them that those temperatures varied in a sufficient degree to destroy or to seriously interfere with the development of these low forms of organic life. He thought that until they had some better explanation of caries than had been brought forward, the theory now put forward might be accepted provisionally. At all events, there had not been sufficient reason shown why it should not be accepted.

Mr. Charles TOMES said that Dr. Dentz had called attention



to the researches of Leber and Rottenstein, as tending in the same direction as those of Mr. Underwood and Mr. Milles. What Dr. Dentz had said would leave on the mind of the meeting that the researches now submitted did not take any great step beyond those of Leber and Rottenstein. On that point he (Mr. Tomes) must differ emphatically. The present researches were the first which had been made on the influence of germs in the production of caries, just as Pasteur and Lister had called attention to the importance of germs in the production of other diseases. The point of importance about the experiments now submitted was, that when the germs were excluded, they failed to produce those results in the production of artificial caries which the older experimenters produced. Let the germs be admitted, and artificial production of caries was produced. He submitted that this was an immense difference, and it was a practical difference which bore on the treatment of dental caries and on the treatment of alveolar abscess, and, in fact, on everything which dentists were doing in their daily work. This point was new; it was submitted now absolutely for the first time. In reference to what Dr. Taft had said, he thought that the arguments which he had adduced against the experiments might be used in a precisely contrary direction and turned against Dr. Taft himself. Dr. Taft had pointed out that in the mouth there was a series of varying conditions. He had also pointed out that there were varieties in caries and in the accompanying phenomena. That was exactly what was wanted. When the experiments were performed at a uniform temperature under uniform conditions they obtained a uniformity in the artificial caries produced, such as was not met with in natural caries in the mouth. They, therefore, wanted something to help them to explain how it was that the experiments did not exactly tally with what was found in the mouth, and Dr. Taft had furnished an explanation of the difference.

DR. TAFT explained that he had not meant to oppose the conclusions which were properly deducible from the experiments. He simply referred to the fact that the experiments were not an entire explanation of the process of decay; and that on account of the reasons which he had given, they could not be a complete explanation of it. He did not deny the presence of the parasites, for they were apparent to all close observers. He was not, however, satisfied from anything which he had anywhere seen, that the parasites were the primary agents in the process of decay. He

believed that they were secondary, and that decay in its incipency took place before the existence of the parasites at all.

MR. COLEMAN said that he believed that the paper, whatever view they might take with regard to it, was a step in advance in their knowledge of the disease termed dental caries. He had understood Mr. Tomes, jun. to say that some condition was wanted, in order to explain the difference between the artificial caries produced in the experiments and the disease which occurred within the mouth. He thought that such a condition was readily furnished by the fact that in the mouth, the tooth was a part of, and attached to, the surrounding living structures, whilst out of the mouth, it was devoid of such a connection.

MR. SPENCE BATE said that whatever notions they might entertain he did not think that it was possible to give too high praise to Mr. Underwood and Mr. Milles, and he did not think that dentists could pay them a higher compliment than that of sifting their experiments and their theory to the utmost. He thought that Mr. Tomes, senior, was a little too quick in accepting the theory as provisionally true. There were several points which seemed to him to show weakness in the experiments. He should like to see more experiments made on teeth taken from the mouth. Not very long ago, there was what was commonly called the cell theory in pathology, and that theory was regarded years ago, as the acme of all research in that direction. It had, however, passed away. It seemed to him that they had now come rather to the Bacterian theory, and every kind of disease under every circumstance was taken now to arise from bacteria. He did not say that the theory was wrong. He only said that they were running too rapidly into a fashion, and taking for granted that which as scientific men they ought to prove. If they were to extract a decaying tooth from a mouth, hermetically seal it in one of their flasks, and keep it at the same temperature, the bacteria would still live, and decay ought consequently to go on. He could, however, show decayed teeth 2000 years old, which ought to have been destroyed altogether by the present time, whereas they seemed to be in the same condition as when they were in the mouth of the individual. Observations showed that decay was going on now to a greater extent than formerly, and there seemed to be some reason to believe that there was something in our present surroundings which was more favourable to the growth of bacteria, but these must not be taken

as the primary cause of the decay; at all events he did not see that this had been yet shown or proved. Mr. Charles Tomes had made a remark which at first sight seemed to be very strong. It was, that if germs were admitted, decay would take place, and if germs were excluded there was no decay. It seemed to him (Mr. Spence Bate) that whenever the authors performed an experiment so that they admitted germs, they also admitted other conditions as well, and consequently they could not say that the experiment was perfectly clear and distinct. A very good case had been made out by the authors, but it was one in which it was highly desirable that research should go further before the experiments were accepted as conclusive. However, he thought that the whole section would give the highest praise and credit to Mr. Underwood and Mr. Milles for bringing forth so elaborate and excellent a paper.

The PRESIDENT thought that there was great force in Dr. Taft's remark that there was a vitality in the mouth which must cause the results to differ from those obtained in experiments upon dead and separated teeth. He thought that the statement of Mr. Spence Bate about the teeth which were 2,000 years old, afforded the strongest evidence of the soundness of the theory propounded by Mr. Underwood and Mr. Milles. If Mr. Spence Bate would take the teeth and set them in an artificial denture, and reintroduce them into the mouth, the process of decay which had been suspended for 2,000 years would immediately recommence.

Mr. UNDERWOOD in reply said that he must recall the minds of some gentlemen to the fact that the time of the reading of the paper had to be limited to twenty minutes. He could not be expected to explain everything thoroughly and completely in that time. He had simply wished to show what difference there was between a tooth to which germs had access, and a tooth to which they had not access. He did not for one moment mean to say that bacteria could destroy any tooth, be its nature what it might. The tooth must be weak in order to be attacked. With regard to the observation of Dr. Taft that bacteria were not primary but secondary, he could only meet it with the observation which he thought was as weighty, namely, that they were not secondary but primary. There was as much or more reason for saying that they were primary, as for saying that they were secondary. With regard to there being no such thing as producing decay out of the mouth, all that they had said was, that they proposed to produce

it as nearly as possible, but this was not a fundamental point. What they considered the main-point was what went on every day in their heads. The diagrams which he exhibited were sections of teeth extracted at the Dental Hospital from patients. They had not had any re-agents applied to them, but a simple stain. With regard to the uniformity of the result, the result was no more uniform than the bacteria. If bacteria were all alike, they would no doubt all produce the same mischief. He believed that there were at present a hundred named varieties which were perfectly distinct. With regard to Dr. Dentz's observations, he was very much obliged for them. The results which had been obtained might or might not remain of value; but that was a question which time alone could decide. With regard to Mr. Hutchinson's remarks, he (Mr. Underwood) and Mr. Milles had certainly not abandoned the term dentinal tube. He only wished to say that a doubt had been thrown upon the fact, and therefore he avoided using the term lest it might cause a little trouble. One question which had been asked was a very pointed one. It was—"Why are bacteria so much more lively now than they were formerly?" The paper did not say that they were more lively. The bacteria were as like their progenitors of two thousand years ago, as human beings were like their progenitors. Human beings themselves were more lively now than formerly, and it was their own liveliness which inspired the bacteria. We ate and drank a great many things now which we ought not to consume. Mr. Spence Bate had said that the greatest compliment which could be paid to them (Mr. Underwood and Mr. Milles) was that their theory should be investigated. He only wished that they would investigate it. He and Mr. Milles did not accept it any more than the meeting did. They only put it forward as possible, and they had looked to see whether it was probable. Having examined sections they thought that it was probable. Then they prepared some flasks, the results of which had led them to think that it was still more probable. Then as the Congress was about to be held they had decided to put the subject before the Congress even in its present very immature form. One very great compliment had been paid to them already, and that was that there had been a very good discussion.

Mr. THOMAS ROGERS announced that Mr. Underwood had promised to give a paper containing full details on the subject at the meeting of the Odontological Society in December.



## Review.

*The Origin and Formation of the Dental Follicle ; the First Memoir on the Development of the Teeth.* By Drs. CHARLES LEGROS and E. MAGITOT. A translation from the French, with introduction and notes, by M. S. Dean, authorised and reviewed by Dr. Magitot, the surviving author, including all the illustrations of the French work, with a number of additional illustrations, selected and original. Chicago : Jansen, McClurg & Co., 1880.

A CONCISE account of the development of the teeth, as made out by the most recent researches, cannot fail to be acceptable to many of our readers ; and we shall, therefore, present them with an abstract of the work before us rather than with an ordinary review. We regret, however, that it is impossible to reproduce the numerous admirable illustrations with which it is furnished, and without which it is difficult to make the subject so readily intelligible as might be desired. The author desires that his readers, in the first place, should have a due acquaintance with the anatomy and physiology of the parts from which the developing teeth are directly derived ; and he, therefore, commences by a description of the oral epithelium—the external layer of the mucous membrane, the structure most concerned in their production.

Since the terms employed by different writers to designate the layers of the skin and of the mucous membrane are so various, and sometimes conflicting, the author applies the *same terms* to the corresponding strata in both of them as follows :—

1. The term *epidermis* comprehends the whole of the external layer, whether it be of the skin or of the mucous membranes.

2. The term *dermis* he applies to the stratum immediately subjacent to the epidermis, and which is known by the various terms, cutis vera, corium, mucosa, proper mucous membrane, &c. These two layers he subdivides—the epidermis into two strata—the *corneous* and *malpighian* ; the dermis also into two parts—the *papillary* and *reticular*.

The tissues next subjacent to the dermis he distinguishes as the *subdermis*, corresponding to the subcutanea, submucosa, tela mucosa, &c.

In thus applying these terms, the author considers he takes no new departure in our nomenclature, but merely employs the old ones systematically, and more rationally.

It must be confusing to the student to find the *lower layer* of

the *epidermis* of the skin, and the layer that lies *beneath the epidermis* of the mucous membrane—parts which are locally, anatomically, and functionally different—both designated by the same name: and *not* to find a *dermis* beneath the epidermis. The term *dermis* cannot be objected to, as applied to a layer of the *mucous membrane*, since the growths originating in this stratum are universally denominated *dermal* tissues.

With this designation of terms, the author proceeds with the description of the mucous membrane, and *more especially* the exterior layer—the *epidermis*, from which the tooth germs directly originate.

The *mucous membrane* and the *skin* are anatomically analogous and continuous structures. The first clothes the internal and the other the external surfaces; and the description of the one will, with slight modifications, apply to the other. In a general sense, they are composed of two strata or layers, the *dermis* and the *epidermis*: yet for convenience of description, rather than for any other reason, they have been variously subdivided.

The external stratum, the *epidermis*, composed entirely of epithelial cells, has been described as consisting of two layers—the external being termed *corneous* and the internal the *Malpighian*. The scarf-skin raised on the external surface of the skin by a blister, and the pellicle detached from the palate by hot drinks represent the corneous layer of the epidermis: by some authors this is called the “true epidermis,” and by some the “cuticle.” This layer is composed of the old epithelial cells which have ceased to perform any of the vital functions. The subjacent layer, formed of living epithelial cells, which vary in form and size, is denominated (among many other terms) the *stratum Malpighii*. Underneath these two subdivisions of the epidermis of the mucous membrane (according to the nomenclature here adopted) is found the *dermis* (*derm* or *derma*). But, lest this mislead, it is mentioned, that there is a transparent amorphous pellicle which separates the lower stratum of the epidermal cells from this latter layer. This structureless tissue is described by Todd and Bowman under the name of *basement membrane*, and by Henle under that of *intermediate membrane*. Now, although the existence of a “membrane” here is disputed by many, yet there can be no doubt that a homogeneous structure is interposed between these layers, and that in some parts it presents the character of a *membrane* of considerable thickness. This membrane is of peculiar interest to

the Dental Physiologist, since the dentine-bulb and the enamel-organ will be found on the opposite sides of it. In this situation it constitutes the *membrana præformativa* of Kaschkow. This tissue is not usually reckoned among the layers of the skin and mucous membrane: and its further discussion here, as a preformative membrane, would be but to anticipate that which follows in the body of this work.

Inasmuch as the elements of the epidermal membrane (the epithelium) play the most important part in the development of the teeth, as will be seen hereafter, a more minute description is given of them than of those of the subjacent stratum.

These elements are derived from the *external germinal* layer—the corneous leaf or plate (Remak) or the *epiblast*, as it is now more generally called. They are developed at an earlier period in embryonal life than are the connective tissue cells of the middle or intermediate layer, the *mesoblast*, from which the dermis originates.

As early as the thirty-fifth day the epidermis presents two layers of cells; but at this period it cannot be regarded as a membrane composed of two laminæ, for the external cells have not yet attained the requisite age to mature them into the horny bodies that constitute the corneous layer. The cells constituting the epidermis must, therefore, though differing in form, be regarded, at this stage, as belonging exclusively to the Malpighian stratum (in its broader sense). But soon they become converted into the corneous layer; when the oral epidermis will be, like that of the skin, divisible into two laminæ. If we examine these two epidermal strata of the mucous membrane more closely, we shall find them composed of regular layers of epithelial cells, which (commencing with the lowest) may be described as the *infant* cells, the *youthful* cells, the *adult* cells, the *aged* cells, and the *dead* cells.

The cells composing the *stratum corneum* belonged in their *infancy* to the lowest layer of the stratum Malpighii; in their *youth* to a more external layer known as the “prickle,” “spinous,” “ridged,” “acubeated,” or “imbricated,” cells.

In their *middle life* they belonged to the polygonal cells (“pavement,” or tesellated epithelium”), which lie still nearer the surface; and in their *old age*, to the elongated, flattened cells, in which the nuclei have nearly disappeared; and finally, as *dead* cells, they occupy the most outward, the corneous layer of the epidermis.

The cells of the lowest layer (the infant cells) stand vertically, like palisades, upon the basement membrane, which latter separates the epidermal from the dermal stratum of the mucous membrane: or, in other words, the basement membrane separates the epithelium from the "mucosa," "proper mucous membrane," or "corium." These cells, which may be likened to the blocks of a Nicholson pavement when set in position, constitute what is called variously the prismatic, columnar, cylindrical, and, perhaps less properly, the Malpighian layer. They have large oval nuclei, and are said to be destitute of a cell wall. In the embryo (according to Henle) they appear like a stratum of protoplasm regularly studded with nuclei. This layer of prismatic cells offers additional interest to the Dental student, since it constitutes the peripheral portion of the enamel-organ, including that *special area* which, during the course of development, will be known as the "*enamel membrane*" ("*internal epithelium* of the enamel-organ" of Kölliker, or "*membrana adamantina*" of Kaschkow) and which here is *converted* into or *produces* it. The next layer or layers of cells (the youthful) have grown larger, and besides their imbricated appearance, are surrounded by a thin cell-wall, *periplast* (Huxley), or *formed material* (Beale). The cells external to these assume larger proportions and are more polygonal in form, and represent these cells in their *middle life*. The cell-wall, or periplast, has increased in thickness, while the nucleus has proportionally diminished in size. The cells still external to these are the *aged cells*, and the nearer they approach the corneous stratum the larger will be the amount of "formed material" that surrounds the nucleus; till at last only a trace of the latter is visible, or it entirely disappears, and these cells enter the horny layer and become the *dead cells*—a lifeless protecting covering for the living elements that are growing up beneath.

Thus, these cells, during their passage from the *internal* to the *external surface*, have from prismatic or columnar cells finally become *thin, lifeless scales*, which are continually cast off as foreign or effete matter. During the entire life of a person these cells are continually passing away; and hence the production of new generations of them must be equally incessant. This reproduction takes place from the lower layer or vertical cells, *i.e.*, the cells that constitute the prismatic or columnar layer; at least this is now the most generally accepted opinion of physiologists, though with some respectable exceptions.



The external layer (*stratum corneum*) of the mucous membrane, unlike that of the skin, is permeable by various kinds of liquids, which, after passing through the softer portions of the epidermis, and the basement membrane, may be absorbed by the vessels of the *dermis* (proper mucous membrane, corium).

The author next takes a hasty glance at the subjacent layer of the mucous membrane, ignoring, for the time being, the existence of the basement membrane.

Lying immediately beneath the epidermis we find a fibro-vascular membrane of variable thickness, which we call the *dermis* (the proper mucous membrane, the mucosa, mucous layer, cutis vera, corium, chorion, &c.). This is continuous with the dermis of the skin, and gradually merges into the *subdermal areolar tissue*, with which it is strongly and intimately connected. The external portion of the dermis is known as the *pars papillaris* (papillary part), and the subjacent portion as the *pars reticularis* (reticular or netted part). The prominent constituents of the dermis are the connective tissue elements: but, as before stated, the cells of the *mesoblast*, to which this layer belongs, are not developed at so early a period as those of the *epiblast*, from which the epidermis is derived. For example, till the forty-fifth day of gestation, and perhaps later, the *dermis* is represented by a nucleated mass of embryonal tissue in progress of evolution, while at the same stage the *epidermal* cells are completely developed.

From the external surface of the *dermis* rises the *dentine-bulb*, or *dentinal papilla*, though many authors state that the papilla originates in the "submucous" tissue. This latter tissue or membrane corresponds with what the author terms the *subdermal tissue*.

The author next proceeds to describe the early development of the jaws and Meckel's cartilage:—

If we examine a human embryo of fifteen to eighteen days (total length, little over half an inch), we shall find two tubercles which proceed from the first visceral arch, and which, when developed, will constitute the lower jaw. These approach each other, until they unite at the median line, and, at a *later period*, become ossified.

This union takes place about the twenty-eighth day, at which period the embryo has attained perhaps three-fourths of an inch in length. But coincidently with the growth of these two processes, two other bourgeons, or buds, shoot out from the same "visceral arch" to form the superior maxilla.

The growth of these is also towards each other, but, unlike the former two, they never unite with each other nor meet at the median line, for there is still a *third pair* of bourgeons, called the incisive or intermaxillary, which arise from the forehead or frontal apophysis, and these, in their downward growth, occupy the central portion of the open space between the maxillary processes.

Soon after the intermaxillary processes have become united with each other (say in five to eight days), their free lateral margins form a juncture, and coalesce with the advancing superior maxillary processes.

All these processes are outgrowths from the mesoblastic layer, clothed externally with a coat of epithelium from the epiblastic.

As to the lower jaw, the processes (sometimes called the *mandibular*), from which this maxilla is developed, meet, from about the twenty-fifth to the twenty-eighth day, and form a union with each other at the median line. Very soon afterward a little *cartilaginous band* makes its appearance ("by direct genesis") and occupies the central portion of the embryonal mass that represents the lower jaw. This is Meckel's cartilage in its incipient stage of development. It is a small whitish cord, lying in a bed of soft transparent tissue, and may be easily distinguished by the aid of a low magnifying power; and by careful manipulation it may be removed entire from the surrounding mass for examination. It gives *form* and *stability* to the lower jaw of the embryo, serving as a temporary skeleton from an early period till it is no longer needed for that purpose. It is composed of two symmetrical or homologous parts (corresponding to the right and left sides of the jaw) which soon become united at the *mental symphysis*. From this point of juncture they extend, one on either side, to the frame of the tympanum, where they terminate in the malleus.

This cartilage is said to constitute the first solid structure that appears in this visceral arch, and from its commencement (about the twenty-fifth day), until it entirely disappears, it undergoes a constant series of modifications. It has scarcely attained its full growth, when it begins to waste away and disappear.

Between the thirty-fifth and the fortieth day of embryonal life, slight traces of ossification show themselves at points nearly equidistant between the symphysis and the angle of the future jaw. This extends rapidly, both anteriorly and posteriorly, along the external face of Meckel's cartilage, in immediate contact, but not uniting with it; and at about the sixtieth day of gestation, a miniature jaw-bone is formed, though not yet perfected.

At this epoch the skeleton of the lower jaw is composed of two arches; an arch within an arch, an *internal cartilaginous* and an *external osseous* one.

In an anatomical view this cartilage consists of two parts, a *transitory maxillary*, or *extra-tympanic*, and a *persistent auricular* part. The former, after it is no longer needed to sustain the jaw, begins to waste away, while the latter, which represents the malleus, gradually becomes ossified.

This ossification of the *auricular* and absorption of the *transitory* portions commences at the end of the third month of intra-uterine life; the former with the malleus, the latter at points corresponding with the middle portion of each jaw, whence atrophy extends in both directions; and, towards the latter part of the sixth month, the cartilage, from the symphysis to the malleus, entirely disappears, leaving for a time on the surface of the bone a slight groove to mark the place it occupied.

In foetal life the upper jaw is composed of four bones, viz., two maxillary and two intermaxillary. In each of the latter will be developed and supported two incisors—a central and a lateral; in each of the former, one cuspid, and all the teeth posterior to it.

Although the intermaxillæ are distinct bones in the human foetus, their external surface is soon covered over with a process from each maxilla, which extends toward the median line, and becomes intimately fused with the former before birth; so that the intermaxillary suture cannot be seen on the outer side; but on the palatal aspect of these bones the suture can always be recognized at birth, and can often be traced even in adult life.

In many animals these remain permanently as separate bones, and in human subjects, where the jaw is malformed, detached pieces are often found in this situation, probably owing to their arrested development.

By Huxley, and many other authors, these bones are called the *premaxillæ*; these parts are also known as the *incisive region*, from the fact that the incisor teeth are implanted in these bones.

After this description of the development of the jaws the author presents a full translation of Dr. Legros and Magitot's memoir, of which we propose to give a summary.

(To be continued).

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### Deaths during the Administration of Ether.

No less than four deaths due, directly or indirectly, to the effects of ether, given as an anæsthetic, occurred in this country during last month. The first case was that of a negro, aged 45, to whom it was given at the Seamen's Hospital, Greenwich, to facilitate the reduction of an inguinal rupture. The hernia had just been returned, and the inhalation suspended, when the pulse and respiration suddenly stopped, and, in spite of prompt efforts to restore animation, the patient died. The second case occurred at Addenbrooke's Hospital, Cambridge. The anæsthetic in this case was administered to a woman aged 50, and Professor Humphrey removed a tumour of the lower jaw. After the cessation of the administration of the ether the breathing became embarrassed; the patient, who had lost a good deal of blood, did not rally, and died in a short time. The *post mortem* examination revealed cancer of the lungs and liver, and death was attributed to asphyxia. Another somewhat similar case occurred at Guy's Hospital. The patient was a man aged 43, who was suffering from a diffuse cellulitis of the palm and wrist, and the anæsthetic was given in order that an abscess might be incised. Before he was thoroughly under the influence of the ether the respiration suddenly ceased, and an immediate examination of the heart showed that its action had also been arrested. The patient had suffered from rheumatic fever, but an examination which was made before the administration did not reveal any *bruit*. At the necropsy the heart and kidneys were very much enlarged, the latter organs weighing together 27 ounces; there seems to be little doubt that death may be attributed to some chronic form of renal disease, which had led to hypertrophy and degeneration of the heart, and that the heart thus weakened gave way before the extra strain brought about by the ether. The fourth case occurred at the London Hospital, and the patient in this case was a young and healthy lad, aged 14, who had received a lacerated wound of the wrist, severing the median nerve and several tendons; the operation to unite these occupied about thirty or forty minutes. It was almost concluded, and the administration of ether had ceased, when the boy suddenly vomited a quantity of pulaceous matter, which filled the mouth and fauces; he quickly became cyanosed, and ceased to breathe. The mouth was cleaned out, artificial respiration resorted to, and Mr. Mor-



gan Davies, the house-surgeon, opened the trachea, and introduced a large tracheotomy-tube. Spontaneous breathing recommenced, and a considerable quantity of vegetable *débris* (currants, &c.) was forced through the tube. The breathing, however, again failed; and, in spite of every effort, the patient sank, and died in about an hour and a quarter after the vomiting began. The *post mortem* examination showed no disease of the viscera, but, wedged into the right bronchus, and quite blocking it, was a piece of the rind of a greengage, rolled up into a firm pellet; and there seems no doubt that death was due to the asphyxia thus produced. The boy had stated before ether was administered that his last meal had been eaten at 2 p.m. The accident occurred at 4 p.m., and the operation was performed at 9 p.m.; so that it seems to be quite clear that no charge of neglect can be made against the house-surgeon, who seems to have acted with much judgment under most trying circumstances.—*British Medical Journal*.

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### Obituary.

EDWARD BARTON BARTLETT, L.D.S., ENG.

THE death is announced of a practitioner who was for many years well-known and highly respected at the West End of London. Mr. Bartlett was born in 1813, at Great Bedwin, near Hungerford, where his father practised as a Surgeon. After serving an apprenticeship at Bristol, after the fashion of those days, he came to London in 1838, and commenced practice in Connaught Terrace, Edgware Road, whence he subsequently removed, first to Cambridge Terrace, and then to Connaught Square. Frequent and severe attacks of bronchitis compelled him to retire from practice in 1874, and to seek a milder climate in South Devon. He died, after a week's illness, of intestinal obstruction. Mr. Bartlett was a member of the Odontological Society of Great Britain, and obtained the Dental Diploma of the English College of Surgeons in 1860.

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### South Africa as a Field for Practice.

A CORRESPONDENT has sent us the enclosed queries to answer. As we do not feel ourselves competent to do so, we trust some of our readers who are acquainted with that colony will be able to give "Iago" the information he requires.

1. What is your opinion as regards South Africa as a field for a qualified Dentist?
2. In what part would he be most likely to succeed?
3. Would it be advisable to take out all requisites?

IAGO.

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### Annotations.

A MEETING of the Representative Board will be held to-day, Saturday, October 15th, at which some important questions will probably be discussed.

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MR. EDWIN SAUNDERS, F.R.C.S., President of the Metropolitan Counties Branch, will deliver an Address on "The Medical Holiday," before the members of the East London and South Essex District of the British Medical Association, at the Town Hall, Mare Street, Hackney, on Thursday, the 20th inst., at 8.30 p.m.

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WE understand that the *Transactions of the International Medical Congress* are making very satisfactory progress towards publication; they will form three volumes of about a thousand pages each. An instalment may be expected next month, and the rest shortly after Christmas.

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A MEETING was recently held at Norwich, at which it was resolved to form a Dental Association for the Eastern Counties, embracing Norfolk, Suffolk, Essex, Cambridgeshire, Bedfordshire, and Hertfordshire. Representatives from nearly all these counties were present; the necessary bye-laws were agreed to, and officers and provisional committee duly appointed. The first Annual Meeting is arranged to be held in April next.

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WE are informed that the next examination for the Dental Diploma at the Royal College of Surgeons of England will take place at Lincoln's Inn Fields, on the 26th, 27th, and 28th inst.

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AN examination for the License in Dental Surgery of the Royal College of Surgeons in Ireland will be held at Dublin, on October 31st and following days. This will, we believe, be the last to which candidates will be admitted *sine curriculo*.

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THE first meeting of the Odontological Society of Great Britain will take place at the Dental Hospital, Leicester Square, on Mon-

day, November 7th, at 8 p.m., when Dr. B. W. Richardson, F.R.S., will read a paper on "Caries of the Teeth, in Relation to Food and Feeding."

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THE Odonto-Chirurgical Society of Scotland will open for the Session 1881-82 on the evening of Thursday, November 10th, when an Introductory Address will be delivered by the President, Dr. Smith, F.R.C.S., Ed. The President of the Royal College of Surgeons of Edinburgh has intimated his intention of being present. After the Address, a conversation on the "Best Method of Inducing Experimentalists to Search for a Satisfactory White Filling" will be based upon Mr. Walter Whitehouse's paper on "Endowment of Research in Dentistry." The Session promises to be a busy and profitable one, contributions of papers, cases in practice, &c., having already been promised by Messrs. Laws, Canton, Wilson, Biggs, Watson, and Macleod.

Gentlemen desirous of joining the Society may obtain forms of application from the Hon. Secretary, W. Bowman Macleod, 43, George Square, Edinburgh.

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It is impossible at this date to obtain complete returns of the number of new entries at the various Dental schools, but it is reported that the number will probably be rather below the average of the last few years. Up to the 12th inst., the number of fresh entries at the Dental Hospital of London was 20, and at the National Dental 7.

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THE following information is assuring. A fire recently occurred at a chemist's in Sheffield, and some of Messrs. G. Barth and Co.'s liquid gas bottles were in the midst of it. One of them was a short time afterwards used by a dentist in Sheffield, and it was found not only quite perfect, but served for four patients more than a bottle usually supplies.

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#### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.O.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A  
MONTHLY REVIEW OF DENTAL SURGERY.

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## THE MEDICAL DIRECTORY FOR 1882.

Messrs. Ash have kindly consented to act as agents for the supply of this work, and all practitioners are particularly requested to order copies of the Directory for 1882 ONLY through this channel, as the future publication of the list of Dental Licentiates is probably dependent upon the amount of support thus shown by members of the Dental profession.

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### PUBLICATION OF LIST OF MEMBERS OF THE ASSOCIATION.

With the January number of this Journal will be published a supplement containing full particulars respecting the constitution and objects of the British Dental Association, together with a list of the Members and Office Bearers of the various Branches. Members whose qualifications or appointments do not appear in the Medical Directory for 1881, are requested to send particulars of the same to the Hon. Secretary, J. S. Turner, 12, George Street, Hanover Square.

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# THE JOURNAL

OF THE

# BRITISH DENTAL ASSOCIATION

A

*MONTHLY REVIEW OF DENTAL SURGERY.*

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### Branches.

THE formation of branches of the British Dental Association is a sure sign that Dental practitioners have not been slow to recognise the many advantages in a higher knowledge and a more generous feeling attainable by professional union and association one with another; advantages denied to those who seek for, or from apathy allow, professional isolation. Strongly has this truth been felt by our fellow workers of the eastern counties, who, despite difficulties of distance and limitation in numbers, have consolidated themselves as the Eastern Counties Branch of the British Dental Association.

We heartily congratulate them on the result, and trust that ere long their good example will be followed by the dentists of the northern counties, then by the dentists of Scotland, and also of Ireland. With this accomplished, the several parts of the whole of the United Kingdom would be represented by branches of the Association, and subsequently perhaps again divided into the sub-branches contemplated in our bye-laws. The framers of bye-laws for the regulation of branches, must, however, bear in mind that the Association is bound by its Memorandum and Articles of Association, the former being fundamental and unalterable, and the latter alterable by the permission of the Board of Trade only.

In electing members of a branch, election also to the Membership of the Association is effected under bye-law 2, involving all the responsibilities and privileges thereto belonging. The branch, under bye-law 18, nominates representatives from its district to serve on the Representative Board—a power which could not be conceded to persons who are not Members of the Association. Hence, to secure conformity to the principles of the Association it is necessary to the consolidation of a branch that its bye-laws should be submitted for the approval of the Representative Board, and for the formal recognition to be accorded as set forth in bye-law 29. Subject to the foregoing conditions, necessary to uniformity of purpose and of obligations, a branch has perfect freedom and independence of action.

Where it is thought desirable to extend to practitioners, who from personal reasons are not Members of the Association, the advantages of meeting their fellows in scientific discussions, a means thereto has been devised in the institution of an Associateship of the Branch, but such connection precludes any interest or voice in business

affecting the Association. This course was originated and carried into effect by the Midland Counties Branch, and may be followed with good effect by other kindred Associations.

But little insight is required to see how great are the advantages which the organization of branches secure to the profession at large. They bring together and lead to the personal acquaintance and, it may be, to the close friendship of the practitioners of the districts they represent. They afford opportunities near at home for the discussion of all subjects of professional interest, whether they be local or general, and by the publication of the results, as well as by their nominees in the Representative Board, the branches become the authorised and trustworthy exponents of local conditions and opinions.

Furthermore, stably organised local gatherings, by the experience they afford in the conduct of business, and in the elimination of differences of opinion by discussion amongst neighbouring practitioners, tend to fit men for taking an effective share in still larger and more general combinations of the profession, thereby rendering the latter more authoritative, and thus furnishing the means of substituting ascertained facts and opinions actually current for the confidently asserted guessings of the editorial "WE."

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The following reprint of a short leader from the *British Medical Journal* will form an appropriate appendix to our remarks:—

#### MEDICAL DEFENCE.

WE learn, with great satisfaction, that, at a meeting of Members of the South London District of the Metropolitan Counties Branch of the British Medical Association, held at Lambeth Infirmary, on November 2nd, it was resolved to form a Medical Defence Committee in connection with this Branch of the Association; and the following gentlemen were elected members of the committee, with power to add to their number—viz: Mr. W. Gibson Bott; Mr. R. H. S. Carpenter; Mr. H. Nelson Hardy; Dr. Robert Lloyd (Honorary Secretary); Dr. J. W.



J. Oswald; Mr. Robert Oswald; and Mr. John D. Roberts. The Hon. Secretary (Dr. Lloyd) will be glad to receive communications from members desirous of joining the committee, which should be addressed to him at the Lambeth Infirmary, Pleasant Place, S.E. This is the beginning of a course which we have long advocated, and we hope it may be speedily followed by others.

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### British Dental Association.

#### MEETING OF THE REPRESENTATIVE BOARD.

THE Representative Board met on Saturday, October 15th, to transact general business, and to consider the position of the Association towards the General Medical Council of Education regarding the removal from the Dentists Register of the names of certain persons who, the Representative Board is advised, have been illegally registered. In the unavoidable absence of the President of the Board, the chair was filled by the Vice-President, Thomas Underwood, Esq. The greater part of the time was occupied in discussing the above mentioned business, and it was unanimously resolved to bring the question, along with the high legal opinions lately obtained by the Association on the points at issue, before the General Medical Council at its next meeting, and to ask for a reconsideration of the subject of correct registration. The case and opinions thereon were printed in full in our issue of August 1st. Owing to the lateness of the hour other matters were referred to the Business Committee.

At a meeting of the Business Committee, held on October 27th, the following gentlemen were elected members of the Association. T. F. Cole, Ipswich; G. M. Horsey, Highbury, N.; W. H. May, Endsleigh Gardens; W. Merson, Bournemouth; N. Tracy, Ipswich.

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### Erosion of the Teeth.

*Abstract of a Paper read before Section XII. of the International Medical Congress on Monday, August 8th,*

By ALFRED COLEMAN, F.R.C.S.

THE term "erosion," or decay by denudation, having been used by different individuals with different meanings, it was desirable at the outset to define the meaning which he attached to the phrase. In this country the term erosion was generally confined to the disease which was

first described by John Hunter, and called by him "decay by denudation." On the Continent, however, it had been applied to those cases of defective enamel which were known here as "honey-combed teeth."

He had collected notices of the disease from the works of Hunter, Fox, Bell, Harrison, Tomes, Bourdé, Fadell, and a few others. Hunter was, no doubt, the first to describe the disease. He says: "there is another decay of the teeth much less known than ordinary decay, and which has a very peculiar appearance, a wasting of the substance of the teeth very different from what he termed erosion. In all the instances he had seen, it had begun on the external surface of the tooth, pretty close to the margin of the gum. Its first appearance was a waste of enamel, whereby the bony part was left exposed; hence it might be called a denuding process. The bony substance of the tooth, at its wasted surface, had the exact appearance of the tooth having been filed and polished." From a comparison of the statements made by authorities on the subject, and from the works chiefly of English writers, it would be found that they did not materially differ in their descriptions of the appearance represented. These differences would appear on coming to speak of the cause of the affection, and here, no doubt, their opinions were warped by their special views. With regard to caries, with which—with the exception of Fox and J. Tomes—they all, more or less, associated this disease, none of the writers mentioned speak of the termination of the process other than as becoming arrested, and when the parts affected assume a brown colour; nor did they allude to the almost invariable coincident formation of secondary dentine.

He believed it to be extremely rare for an exposure of the pulp to be due to this cause alone; when this did occur, he had generally found that it resulted from true caries having supervened in a tooth which had undergone the denudation process. With regard to the period of life at which this disease was most often found, he believed that it was more common in middle age than in youth or

in old age. With reference to sex, it was his opinion that it was more common in the female than in the male sex, but that might be due to the fact that more female than male patients applied for advice.

A point not much dwelt upon by the writers quoted, was the great sensitiveness which was present at the denuded spots, especially in the early stages of the affection. When touched by the finger or by the hairs of a tooth-brush, a sharp and peculiar thrill was felt, with a sensation of cold along the region of the spine; this proved that teeth so affected were by no means devoid of vitality. He had found the application of ammonia, or one of its compounds, very useful in relieving this condition; he usually employed sal volatile, as being of a suitable strength, and ordered it to be applied three or four times a day on a piece of cotton wool or with a brush.

The impressions which he should proceed to give, were the results entirely of his own observations, aided by the use of the microscope. Without for one moment undervaluing this means of extending and confirming one's knowledge of both physiology and pathology, it must be remembered that the appearances presented by highly magnified sections were so deceiving that an inquirer, however honest, looking at them with preconceived notions was very likely to make out with his eyes that which his heart longed for. Mr. Coleman then called attention to a series of drawings representing sections made (1) from teeth affected by erosion, (2) from teeth where caries had supervened upon erosion, and (3) from teeth worn by the friction of plates, but having an appearance closely resembling that of erosion at the worn parts.

In the first, the dentinal tubuli exhibited a varicose condition, the contents having a beaded appearance, and at certain points strongly refracting light. The second series showed the same condition, but, superficially, all the appearances characteristic of ordinary caries. The third exhibited none of the characteristics of either, and simply resembled healthy dentine. The writer expressed his

regret that all the sections, which were to be seen under microscopes in an adjoining room, were obtained from old and dried specimens.

The conclusions at which he had arrived, from what he must confess to be other than a deep investigation of the subject, were—first, that the main element in the process was *friction*, but that a condition which would admit of loss of substance thereby was favoured by a degenerative change in the tooth itself, as evidenced in the varicose and beaded contents of the dentinal tubuli. Previous to commencing his investigations, his impressions were that this affection arose from the direct action of some solvent furnished by the labial or other glands which were immediately adjacent to the wasted spots. The application of litmus paper to these spots and the opposing surfaces had, however, in a large number of cases furnished no greater evidence either of acidity or alkalinity, than was found in normal saliva under various conditions. Nor was it reasonable to suppose that a substance composed of such material as a mixture of gelatinous matter with lime salts should, when attacked by a solvent—unless accompanied by friction—present such a hard surface. Still, he could not avoid the conclusion that in the majority of these cases of denudation some degenerative changes had taken place in the structure of the teeth, and especially in that of the dentine, which had the effect of rendering them less capable of resisting friction than in the normal state. The writer exhibited models kindly presented to him by Mr. Charles Truman, which showed a considerable loss of substance on the masticating surface of an upper first molar, and which could not have occurred by direct friction of opposing teeth. He also mentioned the case of a clergyman, for whom he had supplied six front teeth together with the bicuspid in the upper jaw. The teeth whose places were thus supplied, had been worn down so level with the gum that there was no necessity for the employment of a file or other instrument. The bite was certainly an edge to edge one, but the patient was not more than



forty years of age, and there was nothing in his history to account for this great wearing away of the teeth.

With regard to the agency by which the friction was generally accomplished, he had some difficulty in accounting for it, but he thought the fact ought to be recognised that even the movable and soft structures of the mouth, the tongue especially, were capable of reducing the dimensions of the dental structures. It was well known how soon a sharp edge of enamel was blunted by the movement of the tongue; the latter suffered at first from the contact, but finally prevailed in consequence of its power of repair. He also handed round a model, taken from a child eight years of age, showing how the teeth might suffer from the constant rubbing of the thumb in sucking it. A right upper central incisor of the temporary series had been considerably worn by the thumb, always employed—as had been carefully noticed—in contact with that tooth.

He was compelled to differ from those who, because they happened to find the existence of the affection so clearly described by Hunter in places that were apparently incapable of being rubbed, therefore denied that friction could be the cause. He believed he had never met with the disease in a situation in which friction was not possible, either by means of the toothbrush, toothpick, tongue, lips or saliva. As for the last-named, his friend, Mr. Tod, reminded him of the familiar instances of a stone being worn away by the constant dropping of water and of the pebble rounded in the brook. He had also called his attention to the fact that the pebble ornaments, such as penknife handles, &c., introduced so cheaply from Germany, were all polished under water.

One of the authors he had quoted had referred to the tusk of the female Indian elephant, now in the Museum of the Royal College of Surgeons, and of which, by the kindness of Professor Flower, he was enabled to exhibit a cast, but the appearances presented by that tusk resembled only very slightly, if they did at all, those of decay by

denudation as seen in man ; nor on the other hand did they resemble ordinary dental caries. With regard, however, to the teeth of a certain class of seal, the sea-lion, or fur-seal, the case was different. He had not had an opportunity of examining any sections obtained from them but from external appearances of especially the well developed canines, of which, through Professor Flower's kindness, and that of Mr. Tod, of Brighton, he was enabled to produce casts, the conditions bore a strong resemblance to the affection as seen in man. Dr. Murie, who had written upon the subject, said of them, "To my mind neither the supposition of inherent disease, nor simple friction, will satisfactorily account for the uncommon manner in which these teeth have lost substance." It was possible, Dr. Murie admitted, for the dental apparatus to be worn away, or denuded of the softer dentine, by the rubbing of the teeth against each other. But Dr. Murie believed it to be impossible that the friction of the teeth, could in the case of the sea-lion have produced the denuded condition, as the abraded surfaces were not those which met during mastication. It was, however, a fact that seals swallowed mouthfuls of pebbles, and granules of sand might be taken up at the same time and produce some of the erosion, though the natural polish, and particularly the way in which the large canines were affected, rather opposed than supported this theory. He was at a loss to explain this condition in the seal by any reference to the effects produced on the dental structures in man. In the civilized condition we should naturally expect to find the dental organs in man, imperfectly employed as they were compared to those of other animals, rather in a state of degeneracy, and with regard to an increased existence of friction the human voice ought to be taken into account as an important factor. If the attention was directed for a short time during speaking to the repeated and continuous movement of the lips and tongue, it would be realized what this amount of friction under water might effect. It was an interesting fact that of all animals the

sounds which could be made by the seal most resembled those of the human voice, in fact, it had sometimes been called the talking fish. Its tongue was long and free and although it appeared to swallow its food with but little mastication, its tongue might well be employed in removing the scales of fish which, no doubt, at times adhered to the teeth with considerable pertinacity, and the length of the tongue was such that it might well sweep all round the cuspidati and molars, which had considerable spaces between them.

Looking round on the assembly, comprising so many distinguished individuals, a temptation arose which it was difficult to resist. He could conceive of no better opportunity than was afforded by this International Congress for a general acquiescence in, and settlement of, a universal system of nomenclature of the diseases which were common to the countries represented. And, if he might venture to make a suggestion, it would be to the effect that this International Assembly of Dental Physicians and Surgeons should decide upon a designation which, in their opinion, would best describe the affection first noticed by Hunter and by him named "decay by denudation." A very admirable classification had been suggested by Dr. Murie; speaking of the conditions in which human teeth might suffer diminution in substance, he says it may be effected by four different processes, viz., (*a*) by true absorption, equivalent to the normal healthy process, which is witnessed in the passage from the deciduous to the permanent dentition; (*b*) by erosion, or interstitial changes of a chemico-vital character, but differing from true absorption in being the product of abnormal changes; (*c*) by denudation or abrasion, simply slow mechanical rubbing away, either from contact with the opposed teeth or friction of a foreign substance; and (*d*) by force, or piecemeal chipping away of portions variable in size according to circumstances.

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Address delivered at a Meeting of the Northern District of the Metropolitan Counties Branch of the British Medical Association, November 9th, 1881.

By EDWIN SAUNDERS, F.R.C.S., PRESIDENT OF THE BRANCH.

GENTLEMEN,—Among the many pleasurable duties pertaining to the office of President of the Branch, not the least is that of being called on to preside on the occasion of the opening meeting of the districts or sections into which it has been found convenient to divide the British Medical Association in and around the metropolis. On the 20th of last month it was my privilege to preside at the first meeting of the East London and South Essex district, when a very interesting subject, "The Contagiousness of Pneumonia" under certain circumstances, was brought forward by Dr. Daly in a paper remarkable for its practical character; and in which with a careful avoidance of all that was elementary or redundant, the interest was well sustained throughout. And it appeared to me that it would only be a proper acknowledgment of the courtesy of the Members that I should be prepared to say a few words in the form of an address appropriate to the occasion. For this purpose the Medical Holiday seemed to lend itself as one not altogether devoid of interest both in reference to the time of year and to its effects on the mental and physical condition of the members of our profession. For it is at this season that we return rejuvenated in mind and body, by a break in the routine of our lives, affording much needed rest, with altered external surroundings, amid scenes which charm by their novelty no less than by their intrinsic beauty, thus minimising the cares and worries of life, and adding a new zest to existence. Thus fortified and re-inforced for the battle of life, we look forward with animation and with an enhanced interest to the renewal of such gatherings as these, when each brings his tribute to the common fund of knowledge and experience and lays his offering on the altar of advanced science and practical philanthropy.



When, therefore, your distinguished Secretary, Dr. Dowse, whose retirement from the office must be a matter of general regret, conveyed your kind invitation to take the Chair on the present occasion, I asked not without some trepidation if an address would be expected. His reply was characteristic—not necessarily; unless we have for President a Gladstone or a Gambetta. Now to use a familiar foreign idiom, it goes without saying that you have not a Gladstone for President, but it may be permitted to question whether that particular style of oratory would be as effective in an association of cultivated thinking gentlemen as when addressed to the emotional and unreflecting masses. The fluency and fire which are so potent in swaying the feelings and opinions of those large and indiscriminate gatherings of men who are accustomed to associate principles and measures with certain prominent political leaders (to whom their judgment is to a great extent thus brought into bondage), depend for effect largely upon invective. And, indeed, this is its natural and necessary pabulum, for only so long as there is some wrong to redress, or some corrupt measure to denounce, associated rightly or wrongly with the opposite party, can this frenzy of eloquence so scathing and so relentless be sustained. A grievance is the fundamental law of its being, and its life is sustained on real or imaginary broken promises, bad faith, and persistent wrong doing. Now although it must happen so long as human nature remains what it is, that in such associations as that to which we have the honour to belong, differences of opinion will arise on subjects on which the Members think and feel strongly, still there is no fuel for oratory of the denunciatory or declamatory sort—there is no perennial struggle for place or power. In our republic, president succeeds president in harmonious and amicable succession, and the change is effected without any violent upheaval of the existing state of things or reversal of precedent policy. But the respite was short, for on reflection I felt that imperfect as it might and probably would be, some-

thing by way of an address was demanded, if only as a recognition of your courteous invitation, and the hope arose within me that, without being tedious, I might have something further to say about the medical holiday and the events of the past season.

That most desirable arrangement, the medical holiday, which is observed by a yearly increasing number of the active members of the profession, and which has now become a recognised institution, is, at least in its present ample and systematised form, of comparatively recent date. At a time not very remote, and probably well within the recollection of many here present, it was in the rudimentary stage of a short sojourn at some easily accessible seaside resort, and consisted for the most part of flying visits to the family, there temporarily domiciled. In the then existing state of public opinion, it might have been regarded as a sign of weakness of character, and of want of earnestness in his work, for a professional man to turn his back on the scenes of his daily usefulness for the purposes of mental and physical rest and recreation. In those pre-hygienic days, a studied obedience to the laws of health was looked upon as eccentricity. He who should enquire too curiously into the state of the house drains would be considered fastidious, he who should insist on ventilation and on the prime importance of an adequate supply of fresh air in dwelling or sleeping rooms, would be regarded as crotchety, and there were few indeed who had the courage to own to being guilty of such a waste of time (as it was then considered), as systematically to take exercise for pure health's sake. And *a fortiori* to absent himself for some two months from the scenes of his daily work for the purpose of carrying out a previously arranged programme of foreign travel would savour somewhat of recklessness and defiance of public opinion. And he would probably be made to feel, and not without reason, some apprehension that such a proceeding might militate against his future success, and be of sinister augury as to his professional career. Such, however, is the altered

state of public opinion on this and on many other subjects, due to improved facilities for locomotion and largely diffused habits of foreign travel, that a precisely opposite effect might now be expected. And at a time when German Brunnen and southern health resorts are so largely visited by our countrymen and women, it would be regarded as an additional, if not an indispensable recommendation that the practitioner of medicine should possess an actual and personal acquaintance with the subject. He would thus be able to place himself more in sympathy with his patient, and he would have the great advantage of being able to give, with the confidence inspired by actual experience, the necessary advice as to choice of locality with reference to climate, season, regimen, and analysis of springs. If, therefore, the young practitioner of the present day should experience any misgivings, and should desire justification (other than that of a due regard to his own health and enjoyment), for availing himself of the medical holiday in such a way as to enlarge his experience of men and things by foreign travel, let him assure himself that he thereby only establishes a stronger claim to public confidence.

By thus widening his sympathies and shaking himself free of the shackles of insular prejudice, he will have made himself more cosmopolitan and more genial, and society instead of discouraging, will receive him with greater cordiality, and set on him the seal of its high appreciation. Caste is broken down, and *ne sutor ultra crepidam* is not an axiom of the present active and progressive times, when a man is no longer esteemed and trusted because he knows nothing and cares for nothing outside the limits of his own daily routine. A gradually widening and deepening gulf separates this age of high intellectual activity and of rapid and brilliant scientific discovery, from those more sober and less sensational times. Success was then less sudden and less capricious, the world was not so full, the tendency to centralization was less pronounced, there were more considerable and important towns, and the growth of

large cities at their expense was less frequently met with and far less rapid. Culture was less diffused, and science less ardently prosecuted, work was not so intense, and the general pace of progress was less rapid, and consequently less exhausting. Biological research was more gradual, new facts were brought out at longer intervals, new instruments of precision in aid of diagnosis were more sparsely introduced, and new additions to the *Materia Medica* were more rare, and more tardily and cautiously accepted. And as a consequence the pulses of those who helped to carry on the work of the world, beat with a calmer and more regular rhythm, and the waste of tissue was comparatively inconsiderable. Thus the need was felt to be less imperative for that cessation of daily work, that break in the routine of duty, that taking off the armour, and hanging up the spear for awhile, that truce in the battle of life, which is now looked on as a prime necessity, and as a guarantee for prolonged usefulness.

But at length the world witnessed the dawn of a new day, the birth of a new force, which was destined in an incredibly short time to revolutionise the existing state of things, to link together the great centres of European civilisation, to pierce through inaccessible mountains, to traverse vast oceans, and to bring the ends of the earth into instant communication. This wondrous combination of coal, water, and iron, which infused new life into that great engine of civilization—commerce, and which quickened the pulses of all human arrangements, social, political, or scientific, had its share also in enlarging the bounds of human enjoyment. Thus, by a law of compensation which may be traced in all mundane arrangements, while increasing the wear and tear of life, it ministers in like manner to intellectual sweetness and light, and to the renewal of vital energy. If life is to be measured, not by the years drowsily lived through, but by the events and achievements by which it is signalised, who shall determine the more than Methusaleh longevity to which a future age may attain?



In this respect no class of the community probably benefits more largely than the practitioner of medicine, since none is better fitted by education and habits of thought to reap the full benefit of the various knowledge and experience which are thus brought within his reach. Places of historic interest or personages of scientific repute, are by this comparative abolition of distance brought well within his ken, and he is able to enjoy that intellectual communion so dear to the toilers in science of whatever nationality, but which in former times could not, from physical causes, be brought within his grasp. By these improved facilities of locomotion, combined with economy of time, and, which is no less important, economy also in the way of expenditure, an amount of intellectual and social improvement and enjoyment is placed within the reach of all sincerely desirous of availing themselves of it, which was formerly prohibited in both respects to the young practitioner. Amongst the travelling public, indeed, the medical profession was fairly well represented by those who had made their mark, and whose well-established position enabled them, even at some inconsiderable risk, to disport themselves in unwonted garments among the Swiss valleys, in Alpine passes, or among the softer glories of the Italian lakes; but there were comparatively few of the young, or of those who were fairly launched on the full tide of their professional career. In this respect, however, for reasons already stated and others, a great and beneficial change may be observed.

Probably in the history of the medical profession, no better or grander illustration of the advantages of modern travelling arrangements can be adduced, than that which was afforded during the summer which has just past. The year 1881 will long be remembered by those who were privileged to assist at that august assemblage of the distinguished representatives of medical science of all countries in this metropolis, towards the close of the London season. The success of the great International Medical Congress is attested by the fact (if, indeed, such attestation is re-

quired) that the numbers attracted to our somewhat gloomy shores, were about five times those which repaired to any former meeting, and it may reasonably be expected that the results to science in the number and importance of papers will, at least, be commensurate. All this could not have happened in less advanced times, as regards travelling accommodation, in a city, situated as London is, cut off from the mainland of Europe, and not on the highway to any of the great centres of civilisation. More, however, than mere travelling facilities would be required to produce so brilliant a result; and in remembering the unprecedented success of the Congress, it should never be forgotten how largely its admirable organisation conduced to this result. To the indefatigable efforts of the Secretary-General, and to the refined and elevating utterances of the accomplished President, which struck a keynote of harmony and courtesy well maintained throughout the proceedings of the Congress, was this success mainly due.

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### International Medical Congress.

#### SECTION XII.

*Saturday, August 6th.*

Dr. DEAN (of Chicago) then read a paper on "Alveolar Abscess." He did not apply the term "Alveolar Abscess" to any lesion except that which was associated with a tooth, the pulp of which had become devitalized, no matter whether the devitalization was of recent or of remote occurrence. In other words, the death of the pulp was regarded as the remote or indirect cause of the disease.

After briefly touching upon the etiology and pathology of the affection, Dr. Dean went on to speak of the best methods of treatment. Some cases of the disease were regarded by many writers as incurable, and unfortunately were treated as such by practitioners. Cases with fistular outlets were the least difficult to treat. Taking as an illustrative case a fistulous abscess associated with a superior bicuspid, having a large cavity on its distal surface, the gums being somewhat inflamed and turgid, the first step in the treatment, whether the abscess be acute or chronic, consists in adjusting the rubber dam to this and the adjacent teeth. The decayed parts

should then be removed, and a convenient entrance made into the root canals, which should be enlarged, if necessary, with a gauge drill or other suitable instrument, and thoroughly cleansed. A steel broach should then be passed gently through the apical foramen to remove any obstruction to the passage of liquids. The next process consists of the injection of creosote through the apical foramen into the abscess. This operation should not be discontinued until the whitened orifice of the fistula gives evidence that the remedy has reached this point. The injection of the fistulous track having been accomplished, the root canals may be filled tightly with cotton slightly moistened with creosote, and the cavity of decay sealed up to prevent the entrance of the fluids of the mouth. No additional treatment would be necessary in the majority of cases to effect a permanent cure. In five or six days, when the fistula is found closed, the pulp canal should be completely filled with some durable and impervious material. But before the temporary stopping is removed, the rubber dam should again be applied to the tooth in order to prevent the possibility of any contaminating matter entering the root canals. No matter how badly broken down the crown of the tooth may be, or however swollen the surrounding parts, an alveolar abscess of the character just described would as a rule yield to the treatment above indicated. In the treatment of teeth anterior to the bicuspid it is sometimes better to make a direct opening into the canal from the lingual aspect. In other respects the treatment is the same. The treatment applies equally well to abscessed roots upon which artificial crowns are to be secured. The treatment of fistular abscesses which are associated with the molar teeth is somewhat more complicated, inasmuch as it is more difficult to obtain free access to the root canals. Abscesses not having fistulous outlets, and, therefore, sometimes called "blind abscesses," yield readily to treatment, but require more cautious management. After the operation of cleansing the cavity and the root canals is completed, a broach should be passed through the foramen, if the pus does not already flow. The pus and serum which follow the withdrawal of the instrument should be wiped away until no more will flow. Then make a piston by winding cotton fibres around a suitable instrument, and saturate it with eucalyptus oil or some other substance. With this, as much as possible should be forced into, and then pumped from, the abscess. Of course, the cotton should be renewed many times. By this means the remedial agent will be forced through the foramen and drawn out again, bringing with it a quantity of

purulent matter. By repeating this operation several times, nearly all the contents of the sac will be removed. After the contents of the cavity are measurably exhausted, a little creosote may be injected into the abscess, the roots filled with a pledget of cotton, and the cavity sealed up. On the second or third day the temporary stopping and dressing of the canals should be removed. If pus should be found in the meshes of the cotton, or if serous fluid and pus in small quantities should ooze from the apical foramen, or if there has been a leakage of the temporary stopping, the same treatment should be repeated. The second treating would, as a rule, be sufficient to cure the abscess. In cases which may not yield readily to the treatment with creosote or eucalyptus oil, it would be well to substitute aromatic sulphuric acid. The effect of this remedy, though somewhat painful, is often truly wonderful, and one application is frequently sufficient to arrest the further secretion of pus. If there be necrosis of the osseous parts, the removal of the bone and the injection of aromatic sulphuric acid will be indicated. This treatment would generally result in a speedy cure. The author also described a method of treating incipient abscess. He said he had throughout his paper confined himself almost exclusively to manipulative details, for he believed these to be of the first importance in the treatment of alveolar abscess. He was aware the method of practice here described was not new to all the members of the profession, nor was it peculiarly his own. And he was aware that other therapeutic remedies and modes of practice would accomplish similar results. He had merely described the methods and the remedies which had proved most satisfactory in his own practice.

Mr. WALTER COFFIN described what he believed to be a novel and original operation for the evacuation and cure of large alveolar abscesses. The perfect application of any medicament to all parts of a large and inaccessible abscess always presented considerable mechanical difficulties, and it had occurred to him that, for the hydraulic or pneumatic pressures which were usually applied, there might be substituted some rapid chemical evolution within the cavity. He had carried out this idea by injecting into a large abscess in his own mouth, which had resisted all the ordinary applications of carbolic acid, creosote, and every other known remedy, as strong a solution as he could obtain of peroxide of hydrogen. This, if cold and rapidly injected, almost immediately afforded a rapid evolution of oxygen upon the whole surface of the abscess, and a more satisfactory antiseptic than nascent oxygen could scarcely be conceived.



The liquid when injected was perfectly clear, but the operation was immediately followed by an enlargement of the cavity and the exudation of a white milky froth. The result was extremely satisfactory, a single injection of the peroxide effecting a complete cure.

Mr. COLEMAN said that with regard to the interesting cases of alveolar abscess, in which an antiseptic condition had been produced where there had formerly been a septic condition, it would be extremely interesting to be able to ascertain what finally occurred in the process of cure. Their attempts to cure would then be more rational and less empirical than they were at present. It occurred to him that the tissues were brought into a condition comparable with that of the catgut ligature first employed by Professor Lister, which gradually became absorbed, particles of living matter making their way between its meshes. It might happen that the action of antiseptics brought the imperfect degenerate tissues into a condition in which they were absorbed, their place being supplied by fresh living tissue.

Dr. NORMAN KINGSLEY, of New York, then read a paper on "Civilization in its Relation to the Increasing Degeneracy of Human Teeth."

The most important undetermined problem now confronting the Dental profession was embodied in the enquiry made daily by anxious parents in substantially the following form:—"Why do my teeth decay more rapidly than my father's or mother's did, and why are my children's teeth decaying at an earlier age than mine?" The enquiry did not come from those who neglected their teeth, or from the lower classes of society, the ignorant or the depraved. It was confined to no particular race or nationality, but came from that class which was the most intelligent, the most highly cultured, and the most finely organized in any community, irrespective of race, locality, or climate. It was useless to treat the enquiry lightly, or to attempt a denial of the premises. The cases were exceedingly rare, if they existed at all, where the teeth of the children were sounder than those of the parents, and we must admit the conclusion that with each succeeding generation the Dental organs were becoming more and more degenerate. What response had the practitioner to this enquiry? It was not difficult to formulate an answer which would satisfy many. Some even who were well versed in other branches of science would often be satisfied with an answer that would not bear investigation, and might even be absurd. In this way was heard daily a repetition of theories

and speculations which had just enough foundation of truth, and just enough plausibility, to escape being challenged. Probably the most generally received idea amongst cultivated unprofessional people was that the eating of candy and other sweetmeats was the cause of Dental caries. There was probably no more fallacious idea so generally believed; pure candy in moderate quantity never harmed any healthy child or adult. Another speculation which had gained some credence was contained in the discovery that iced water, hot drinks, or hot cakes were the cause of all the mischief; but he believed it to be very doubtful whether a cavity of decay ever originated from sudden changes of temperature. That decay was caused by living upon soft food instead of upon food that required mastication, was another favourite theory. The nature of the food had unquestionably a most important influence upon the Dental organs, and might indirectly cause decay, but the use of soft food was not the primary cause of the present increasing degeneration of the tooth structure, as would be evident from the fact that the Esquimaux, living on whale blubber, the Chinaman, living on boiled rice, and the savage, who lives on nuts and fruits, have all equally good teeth, though those of the latter are worn down more quickly

Still another theory was embodied in the statement that contact always produced decay. That contact was anything but an incident to the real cause could not be shown. An examination of the most solid Dental structures ever presented for professional inspection showed all the teeth in absolute contact, with no traces of decay. The contact theory must be relegated to its proper place among secondary causes, simply as a coincident factor in the great problem. Another theory assigned the want of cleanliness as the cause. This also was only a factor which must be associated with many others to give it any potency. We frequently saw perfect Dental structures which had never known cleanliness as at present understood. Cleanliness was more important in its remedial character than as an explanation of the primary cause. "Climatic influences are the cause," said another, and still another maintained that the cause was intermarriage, or the mixing of types. Certain districts might be malarious to the unacclimatized, and the whole system might be poisoned, but tooth structure suffered, if at all, only as a secondary result. Interbreeding and crossing types of the human race ought not to result in defective tooth structure. Reasoning from analogy with regard to what took place in the case of animals, improvement should be looked for, but interbreeding

in its highest application involved that only sound and healthy subjects should be concerned. The mixing of inharmonious types was more likely to result in deformity than in deterioration of structure. Other vague theories, used often without much understanding, were formulated, but the most comprehensive, and the most tangible withal, which had been made sponsor for this growing curse of the human race was *Civilization*. What was civilization, and what had civilization to do with decaying teeth? It meant, an emerging out of barbarism into refinement, out of ignorance into knowledge, out of bondage into liberty, out of privation into comfort. Civilization expands the intellect, represses vice and savage instincts, cultivates virtue and noble aspirations, encourages the growth of the emotional nature, and enlarges the domain of human sympathy. Civilization defies and controls the elements, organizes commerce, builds cities, railways, telegraphs, and factories. Civilization is the divinely appointed method through which mankind derive their greatest blessings, and by which they reach their highest possible state of intellectual, moral, and social development. Only through civilization would the millennial or ideal existence of the human race ever be attained; civilization, therefore, was a normal condition of mankind. In the more refined and luxurious conditions of life we found physical labour exchanged for mental, and strain of mind took the place of strain of body. Muscular tension ceases, and nervous tension takes its place. The mind is constantly on the alert, and the brain has no rest. The nutrition of muscles and bones is diverted to repair the undue waste of nervous tissue, and, sooner or later, come, inevitably, the long list of nervous diseases, which now so threateningly confront us. The causes which tend to produce such results were more active and more potent in the Northern United States than in any locality in the globe. The reasons for this had their foundation primarily in the institutions of the country, and the stimulus which the country afforded for the intensest mental activity. But testimony was not wanting that the same thing in kind was now going on in Great Britain, and even heretofore stolid Germany was undergoing a like transition. Nervous diseases and decay of teeth were correlated, both being symptoms of a common cause. The teeth required constant nutrition, as did the muscles, the bones, or any other organs or tissues of the system. Teeth decay primarily because the nutrition of their organic structures being withdrawn, retrograde metamorphosis ensues. Caries is simply solution or

disorganisation of both constituents by agents which are always external, but which would be quite inert under other constitutional conditions. When nutrition is insufficient or diverted, the resisting power of the vitality inadequate, and destructive agents present, the teeth will yield at their weakest point, and caries is the result. The ordinary remedy for these evils, and the salvation of the race from degeneracy and destruction would seem to involve a return to a condition of life more consistent with hygienic laws. The pessimistic view of the future was without reason, for while degeneracy of the teeth was certainly on the increase in certain families and classes, there were equally certain signs of its abatement. With increasing wealth, families had less cares, less anxiety, less nervous strain, more ease, more attention to hygiene, and better habits of life. The intellectual activity of to-day, and the energy and intensity of modern thought were not inconsistent with a sound constitution, with perfect health in all the tissues, and with long life. It was the worry which wears out the nervous system, and not the work. Civilization, the glory of mankind in their maturity, is, nevertheless, in no wise responsible for the accidental effects which have resulted from a violation of her true principles, for out of civilization ought to, and must come, the grandest examples of humanity the world has yet seen, without spot, or blemish, or taint of disease.

Dr. BEARD (New York) said that he was not a Dentist, but he had a special and peculiar interest in the subject of the paper, for he had given his life to the study of the nervous system, and the teeth were so connected with the nervous system that they could not be studied apart from it. In the study of medicine, physicians had noticed examples of the same sort of change as that which was now perplexing Dentists. In the case of dyspepsia, for instance, although there had, no doubt, been cases of that disorder for thousands of years, it was only during comparatively recent years that it had become a general disease in the United States. The same thing held good with regard to caries. The wave of nervousness was now sweeping across the Atlantic, and there had not been a week during the past year in which he had not received from scientific men in Germany communications with regard to the subject, stating that they had all the nervous disorders which prevailed in the United States. He had no doubt that they also had Dental caries increasing in frequency. A few years ago, dyspepsia was spoken of in Germany as the American disease; it



was indeed a disease of civilization. The progress of hay-fever offered another excellent analogy. It had passed through just the same stage. Helmholtz made some microscopic observations on hay-fever, and concluded that it was caused by infusoria; but hay-fever was no more an infusorial disease than was insanity. Among North American Indians, decayed teeth were comparatively rare. It was equally certain that they were rare among the Negroes in North America, and the lower orders of society. But among the latter classes decay of the teeth was increasing, as were also hay-fever, nervous dyspepsia, and sexual exhaustion. In China and Japan, the natives could breathe bad air all their lives, and eat the worst of food, and not have any of the diseases which would occur in the United States, or in civilized Europe. A similar state of things held good with regard to alcohol. A savage could take all the alcohol he wanted, and it did not hurt him. He never became nervous, or what was called an inebriate. In New York the inhabitants could not stand alcohol. In Baltimore and Chicago there was very little of it used. The reason was, not because there was more morality than elsewhere, but because there was more nervousness. All through England, and even in Germany, there was an increasing sensitiveness to alcohol. There was an analogy between these changes and the changes which had taken place with respect to the soundness of the teeth, and there was the same law presiding over all the changes.

Dr. MAGITOT, speaking in French, said that, according to Dr. Kingsley's views, Dental caries was constantly progressing *pari passu* with the advance of civilization. Having himself studied the history of caries in past times, he could not agree to that opinion. In order to prove this, it would be necessary to show that the proportion of carious teeth was greater, in proportion to the number of individuals living, than it had been at any preceding period. He granted that the number of carious teeth met with was immensely greater, but so also was the density of the population. It must be remembered that our present civilization had been preceded by others which had attained to considerable perfection—those of Egypt and Rome, for instance. Amongst Egyptian teeth he had found a considerable amount of caries, and even in the jaws of prehistoric skulls he had seen carious teeth. The lower jaw found at Abbeville was celebrated as one of the oldest signs of prehistoric man which had yet been met with, but it contained a carious tooth. It was, of course, impossible to

state absolutely whether caries was more or less general now than it had been at any former period, but he was certain that the prevalence of caries had been much greater in old times than was now generally believed, and although he would allow that civilization had something to do with the prevalence of caries, he thought that the influence of race was a much more important factor. The influence of race as a predisposing cause was well-known in regard to other diseases—phthisis, for example. And so with regard to caries; amongst some races it appeared to be unknown, *e.g.*, amongst the Negroes of the Soudan, whilst the Anglo-Saxon race was very subject to it. He had made careful enquiries respecting the prevalence of caries in proportion to population in different parts of France, and had found that it was most common amongst the people inhabiting the north-eastern departments, and least so in the south and south-west. Those amongst whom caries prevailed were descendants of the Cymri, or Suevi, a tall, fair eastern race, and they could still be distinguished from the inhabitants of other parts by the colour of their hair and the shape of the head. The difficulty of tracing this influence of race was greatly increased by the mixed origin of most of our population. Some races had introduced a tendency to caries, whilst others had transmitted in various degrees some power of withstanding this tendency; but, if carefully enquired into, this would be found to be a most important element in the chain of causation.

Mr. J. R. MUMMERY then brought forward the series of questions respecting the “Predisposing Causes of Dental Caries,” which will be found at p. 484 of the *Journal* for September 15th.

The Section then adjourned.

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*Monday, August 8th*

Mr. J. TOMES, F.R.S., one of the Vice-Presidents, took the chair at 10 o'clock and called upon Mr. Walter Coffin to read a paper on “The Generalized Treatment of Irregularities,” of which the following is an abstract:—

The possibilities of regulating were well known, but on any case of irregularity presenting for treatment, the practical question would be, What was the best to do, and what was the best way to do it? A classification and analysis, in even their infinite variety, of a sufficient number of instances, and the results of their treatment by every possible means, should afford at least an

approximate answer to these, and the no less important questions,—what not to do, and how to avoid doing it ?

The models shown had been selected, as fairly representative from a collection of several thousands, recording the attempted treatment of perhaps a larger proportion than usual of the ordinary irregularities met with in an average practice, and,—as extending over more than twenty-five years,—illustrating the evolution, within certain limits of an almost generalized method. The peculiar system thus developed, in use for many years, was no longer a novelty ; but having been imperfectly made known, (for which perhaps its advocates were responsible), and a misconception existing as to its real objects—those in whose hands it had been an invaluable aid, felt that some account of what they conceived to be its capabilities and limitations might not be unwelcome.

Classifying any large series most conveniently by the mechanical exigencies of each case, in certain of them extraction of possibly sound teeth might, of course, be necessary—though these were less numerous than usually imagined—a possible alternative in many instances affording, (as shown by casts submitted), satisfactory results. A large class, uncomplicated by crowding, in which aberrant teeth were easily replaced, admitted of direct and immediate correction by suitable means (a simplification of which would be alluded to). Of the remainder, the majority were cases of every variety, in which the teeth—not really too large or numerous for the jaw they might symmetrically occupy—were by some chance of their eruption, irregularly disposed, interlocked, and crowded. Of these it might be affirmed, quite generally, that rectification necessitated the movement of many teeth or all, and an altered shape or outline of the dental arch. These presented the greatest difficulty in regulating by the usual way, especially with a rigid plate ; but in the most intricate or the simplest of them, the permissive control of the general tendency of movement during regulation, reduced their successful treatment to comparative ease and certainty. This mechanical anticipation of favourable conditions might be illustrated by assuming an incisor to be moved in a crowded arch by any means applied by a plate rigidly embracing the bicuspid and canines, when a certain force in a certain time might complete the operation ; but were the plate either abolished, or its symmetrical halves partly independent and free to move relatively in the plane of the arch, less time and force would suffice ; and, furthermore, if its halves tended but slightly to

separate by an elastic spring reaction, many cases would require very much less time and force to be exerted on the tooth. The action thus stated in its simplest form was observed for the first time by a singular accident. Soon after the introduction of vulcanite Dr. Coffin was employing a plate of that material to move an incisor by the swelling of wood. Successive increments of force had been resisted, when all at once it was found that not only was the tooth in position, but that other front teeth were slightly separated where previously in overlapping contact; the wood (being nearly on the median line), by lateral expansion, having split the plate down the centre. In this instance, as was often the case, previous "expansion of the arch" by the means usually applied, was certainly not indicated, and therefore not resorted to, although just the slight amount of spreading required was prevented by the rigid construction of the plate. A conviction of this led to a particular method of treating various irregularities, which, as anticipating changes common to them—usually expansive—had been called somewhat indefinitely an "expansion treatment;" and the adoption of which had been abundantly justified by experience.

The troublesome and delicate operation of "expanding the arch," as usually performed, if attempted by the ordinary "jack screw" direct, must be accomplished before other regulating action could generally be commenced, and might then prove to be either excessive or unnecessary. The screw was applicable with care to severe contraction (though inferior to other means); but undivided plates—however thin and elastic—or hinged plates, however actuated, had not the freedom of movement and adjustability desirable; and the screw was entirely unsuitable for a split plate.

The little device called by Dr. Coffin an "expansion plate," whether used for direct expansion or not, was intrinsically of extreme simplicity, while of complex regulating action, comprising a means—easily embodied in any plate—of conveniently permitting or assisting (instead of hindering or preventing) during regulation, the inevitable changes of the arch naturally accompanying it, and supplementing ordinary expedients with an expansive characteristic. Its distinguishing function depended on the principle of permitting a relative motion, or maintaining a particular controllable reaction, between two semi-independent parts, usually its symmetrical halves. Mere repulsion, however, between two points on a split plate, is an unstable system, and uncontrollable. Allowing a certain freedom of motion, means must be provided



for restraining it, and maintaining by a yielding guidance any desired degree of parallelism.

Difficulties attended the first realisation of these conditions; but it was found that a wire spring of a certain form, if a constructive part of the plate, would itself meet all requirements.

The general form might be described as a rather thin vulcanite plate, capping or clasping some or all of the bicusps and molars, and fitting the lingual surfaces of the anterior teeth; but divided completely along the median line into two distinct halves, connected, however, by a slight steel wire, so disposed that, while guiding and limiting their relative motion, its tension exerted between them may be perfectly determined, and varied in direction and magnitude. When necessary in such a plate to establish the spring reaction, a surprisingly small, almost imperceptible stress, ever so distributed, and against a widespread resistance, if continuously maintained and suitably applied, sufficed to produce any degree of motion desired.

The perfection of the model must be insisted upon. The best impressions had been obtained with the preparations of gutta-percha or ballata gum, no other material affording with ease the absolute fit essential for a split plate.

A delicate and elastic vulcanite plate from a good gutta-percha impression—if the model be vulcanized upon direct, and not touched to accentuate undercuts or correct imperfections—would generally spring over the teeth with so absolute a fit, that its removal may even be embarrassing, but until divided its insertion is not usually attempted.

Trials of the metals and their alloys proved the superiority for springs of apparently so undesirable a material as steel. The almost insuperable difficulty of satisfactorily tempering bent soft steel without deformation of shape was obviated by the use of pianoforte wire, possessing very uniform texture, temper permitting it to be fashioned and used without heating, and a surface hardness and burnish which greatly tend to its preservation. To coat this wire with other substances was found unnecessary and undesirable. A diameter of between three and four-hundredths of an inch (or about 0.035 inch) is most suitable, as of this a convenient length of from 1 to  $2\frac{1}{2}$  inches exerts an appropriate tension in average cases. The extremities being buried rigidly in the vulcanite, the uncovered and active portion of the wire, emerging from selected points in the alveolar region, should be entirely on

the lingual side of the plate, nicely fitting, but free to move upon its surface. The wire between its attachments may be in a simple curve, when, for localised action (as exclusively posterior expansion), it will urge a relative motion or rotation about some point; but that every kind of motion may be established, there must be one or more reversals of curvature, by either a single couple of opposite curves, or any number of alternately contrary ones (preferably odd), approximately balanced, and as large and symmetrical as possible. A serviceable form for an upper general expander is a three or five-curve serpentine figure, like a rounded capital W. The spring being shaped to fit as nearly as may be the palatal surface of an upper model, or the lingual surface of a lower, has its ends for half an inch (without being softened) slightly flattened and roughened, and so bent towards the model as to raise it uniformly from the surface to a distance of about the desired thickness of the plate, and the portion to be inserted in the rubber tinned or coated with common solder. To several points upon its exposed part, short ends, or loops of binding wire, are twisted to better secure it in the plaster investment. When in shape, it must be free from tension, and attached in the vulcanisation to the plate, which is made entire, and afterwards divided.

The plate being modelled in wax, the spring is placed on the surface, with its ends buried within, and when removed by the counterpart, protected from the rubber by tin foil before packing. Finished in the usual manner, entire, the plate is divided with a fine saw, the edges and corners of the cleft being well rounded and smoothed. This, with care, may be done without imparting tension or twist to the spring, which is important. The plate should be inserted and worn in the mouth without tension for a day or two, to first eliminate causes of irritation not due to its expansive action, and sooner induce toleration of its presence. Any expansive force required might then be established, and its right direction secured, by stretching the two halves with a slight exaggeration into the relative positions towards which it was desired they should tend to move. This, however, might require correction and modification by observing its effects in the mouth. The amount of stress, which was not so conveniently diminished as increased, should be small at first, especially in plates whose expansive function may be simply permissive or auxiliary to other regulating action. It might safely be entrusted to the patient

(even quite young) to frequently remove, clean, and replace, after duly cautioning, without fear of disturbing its adjustment.

The experience gained of steel wire had led to its almost exclusive adoption for ordinary regulating purposes, as spring levers acting directly on the teeth, for pulling, pushing, or rotating; and, being permanently fixed to the plate, their convenience, adjustability, and many adaptations, were remarkable. Combined with a split plate, they were found to replace with advantage, screws, inclined planes, wedges, levers, and ligatures, in many of their local uses, and, moreover, were practicable where nothing else could be applied. In fact, by the gradual simplification of means, and the elimination of uncertain devices, a delicate split plate, with perhaps one or two short lengths of small wire closely fitting its surface was often now the representative of the wondrous combinations of nearly all the known "mechanical powers" that once exercised their ingenuity. Where in simple cases a plate was unnecessary, efficient expedients might frequently be improvised with an inch or two of steel wire and elastic rubber tube.

When direct expansion of the arch is indicated, the thin, spring reaction plate, fitting closely the palate, teeth, and tissues covering the alveoli, and not filling the mouth or impeding any of its functions, would with the minimum of trouble and attention effect any desired degree of that spreading and moulding of the mouth which it was well known might to a surprising extent be rapidly and almost painlessly produced.

Among the uses of direct expansion, its interesting application to the operative treatment of caries, and to slightly overlapping incisors, might be discussed together. In young mouths where interstitial decay of incisors closely in contact almost defies successful treatment, any operation attempted, whether of separating surfaces, shaping or filling cavities, or restoring contours, would, of course, be facilitated by gaining ever so small a space between them. Paradoxical, as it might seem, it was actually less painful and troublesome to secure ample spaces between all the front teeth at once, than to wedge two of them apart in the ordinary way, with the advantage of easily maintaining their separation without irritation during any course of treatment. A plate exerting anterior expansion would rapidly—and usually almost painlessly—separate the incisors, and by a suitable adjustment of the bearing surfaces, might readily be caused to distribute spaces equally between all the front teeth. The slight tenderness soon disappeared

if held by the same or another plate, and they might be kept apart without fear of their not coming together again.

Expansion, where posterior teeth wrongly articulate, presented little difficulty when the conditions were symmetrical on both sides; when otherwise, or confined to one side only, a differential or even a unilateral effect might be produced, according to the number and kind of teeth the action of the plate might be distributed over, or concentrated upon, and the arrangement of its articulating surfaces.

Lastly, the obvious application of the divided spring plate to narrow mis-shaped mouths with high contracted roofs, unfortunately presented considerable difficulty. These cases admitted of very great improvement (as illustrated by models exhibited), where circumstances were favourable for expansion; as when the bite could be either kept normal or made so, and the jaw was not really so contracted as the dental arch made it appear; for such the split reaction plate was peculiarly adapted and unsurpassable, if treated with caution. In the models of many cases so treated it would be observed that the palate vault appeared to have undergone considerable alteration in shape.

While expansion was most readily performed in young mouths, especially under sixteen, the only limitation of age would seem to be the diminished power of restoring fixity after movement, which must be inferred of advanced age; though in a case of considerable expansion at forty-five, the teeth became perfectly firm afterwards.

It was hardly necessary to dwell on the desirability of the greatest possible simplicity of regulating devices, in principle and details; and the self-maintaining adjustability of plates, that they might be as independent as possible of any control by the patient, whose co-operation should be confined to their perfect cleanliness only, and the health and comfort of the mouth.

In conclusion the advocates of the method appealed to their record of results—results which, they believed, it would have been difficult or impossible to obtain by any other means, and had, therefore, ventured to detail their procedure at some length for confirmation or criticism by others.

The paper was illustrated by more than five hundred old regulating plates which had been actually used; of these about four hundred were "expansion plates," upper and lower, symmetrically



and unsymmetrically divided, some being simple "expanders," and others showing other regulating devices combined with expansion. There were also models exhibited in the Congress Museum of forty typical cases, showing by three or more casts to each case the conditions before, during, and after treatment. These were classified as illustrating:—

1. Expansion auxiliary to ordinary regulating, (a) in simple crowding, (b) for rotation and alignment.

2. General expansion, (a) for operative treatment of caries, (b) for mis-articulation, (c) *versus* extraction of misplaced teeth, (d) for prominent incisors, (e) for contracted, narrow, or misshaped arch.

3. Applications of steel wire to every kind of ordinary regulating, (a) alone, without plate or accessories, for alignment or rotation, (b) combined with elastic ligatures, (c) with an ordinary plate for moving, shortening, lengthening, and rotating teeth.

4. Combinations of the above.

Dr. ROSENTHAL (Liège) said he had used Mr. Coffin's plan of regulating teeth during the last eight years with great success; it produced with ease results which he had previously thought impossible. It was an excellent idea, easy, rapid, and safe, and he felt sure it would not be allowed to fall into oblivion.

Mr. CUNNINGHAM (Wisbech) said he also had derived great assistance from Mr. Coffin's expansion plates, but their proper construction and successful use depended so greatly on attention to details that he had at first made mistakes, and attributed his success largely to Mr. Coffin's personal instruction and advice. He was sorry, therefore, that the paper omitted several important points, as for instance a description of Mr. Coffin's peculiar method of using gutta-percha, which he found had revolutionised the taking of impressions. He believed that all who would really try this method would find—as he had found—many unexpected and useful applications of the split plate.

Mr. SPENCE BATE mentioned the case of a boy, aged sixteen, who had cut the right central incisor immediately in front of the left. He was endeavouring to bring the tooth into its proper position by the aid of a plate, but he feared it would be impossible to move it as much as would be necessary, and yet to keep it in the vertical position; the crown could be moved easily enough, but not the root.

Mr. COFFIN replied that it was impossible for him within the

time allowed to deal with many details and technical points of more or less importance, but he should be very pleased at the termination of the sitting to answer any questions, and to give any explanations that might be asked for.

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### Odontological Society of Great Britain.

THE first meeting of the Session took place at the Society's rooms, 40, Leicester Square, on Monday, the 7th inst., Mr. Thomas Arnold Rogers, President, in the chair.

THE PRESIDENT announced that an old and valued member, Mr. David Hepburn, of Edinburgh, having been compelled to retire from practice owing to serious ill-health, the Council proposed that he should be elected an Honorary Member of the Society, and he felt sure that this suggestion would meet with the approval of the members generally.

MR. WOODHOUSE proposed, and MR. COLEMAN seconded, a resolution "that the thanks of the Society be given to the President for his great munificence and liberality in defraying all the expenses of the entertainment given by him on behalf of the Society during the meeting of the Congress, and that the thanks of the Society be also given to Mr. Edwin Saunders for the delightful entertainment given by him in the same week."

THIS having been carried by acclamation, the PRESIDENT replied that he felt highly complimented by the Council having thus shown their confidence in him by allowing him to take upon himself the whole responsibility of this entertainment. He was very glad to hear that it had given general satisfaction, and if he had been guilty of any omissions in the way of invitations, he hoped they would be excused.

MR. HUTCHINSON announced additions to the Museum by gifts from Mr. Brunton, of Leeds, Mr. Forsyth, Mr. Lyddon, of Reading, and Mr. Felix Weiss. The new catalogue was rapidly approaching completion.

MR. MUMMERY exhibited the skull of a Fingo, a race inhabiting the South-west of Africa. The worn state of the teeth showed it to be that of an old man, yet all the teeth were perfect, and there was not a trace of caries. A remarkable fact was that the left upper third molar was absent, a very unusual occurrence amongst savage tribes, in whom the wisdom teeth were generally large and well-developed.

Mr. LAWRENCE READ showed a flask and clamp of somewhat novel construction which had been worked out by Mr. A. Howarth, of Bradford. Mr. Read had used it for six months past, and had found it to act very satisfactorily.

Mr. CHARLES TOMES showed a very large odontome which had been removed by Mr. Christopher Heath from the mouth of a young lady eighteen years of age. It was one of the rare tumours described by Broca as "odontomes odontoplastiques," and consisted of a mass of dentine studded with nodules of enamel. It weighed 315 grs., and measured  $1\frac{1}{2}$  in. by  $1\frac{1}{4}$  in. The patient first suffered pain about Christmas last, near the angle of the lower jaw on the right side; more definite symptoms gradually made their appearance, and in May she consulted Mr. Heath, who found great enlargement of the bone, with a fungus-like growth in the mouth, and apparently bare bone, the appearances closely resembling those ordinarily found in a case of sarcoma of the jaw. An operation involving removal of a portion of the jaw was declined, and the swelling somewhat diminished. In September, Mr. Heath undertook an operation for removal of the supposed sequestrum of bone, and after considerable trouble succeeded in elevating the mass described from its bed, since which the jaw had slowly contracted to its proper size.

The PRESIDENT asked whether Mr. Tomes had found any traces of cementum in the tumour.

Mr. TOMES said he had not, but some of the dentine was of so coarse a structure as scarcely to differ from cementum in appearance.

Dr. B. W. RICHARDSON showed some photographs of skulls selected from a large number which were preserved in the crypt of the church at Hythe, in Kent. They were said to be the results of a battle fought in that neighbourhood between the British under Vortigern and the Saxons, about the year 450, but careful examination showed that they were a very mixed collection, three, or probably four, different types being recognisable. Although not so old as the legend asserted, they were evidently of considerable antiquity, and he had been much struck with the entire absence of any traces of dental caries, though some of the skulls were evidently those of old people.

Mr. MUMMERY said he had also carefully examined these remains, and agreed with Dr. Richardson that they were of very diverse types; he had also noticed the absence of caries.

Mr. COLEMAN said that Mr. Cartwright and himself had carefully examined these skulls, and had reported the results to the Society seventeen years ago. They found distinct evidences of caries, and also of alveolar abscess, but very much less than would be found in the same number of modern skulls. It was apparent to them that it was a very mixed collection.

The PRESIDENT then called upon Dr. Richardson to read his paper on the "Causes of Caries, Constitutional and Local," of which the following is an abstract:—

In our present state of civilization caries appeared to be, of all others, the predominating disease affecting the teeth in this country. For some years past he had introduced into his tabulated clinical records a note respecting the condition of the teeth, and the result of this enquiry had startled him not a little. The returns showed that over 80 per cent. of the persons who came to him were affected more or less severely with dental caries, and the number examined amounted to over 4,000 of both sexes and of all ages.

Indeed, in his experience it was rare to meet with a person in whom both sets of teeth were altogether free from this disease. He believed also that it was now more prevalent in the young than it was when he commenced medical practice thirty-two years ago. The study of caries was, therefore, of more than mere professional, it was of national importance. For such a general development of disease we must look for general causes; local causes might tend to bring out a predisposition, but it was evident that these could be but secondary, and that so widespread a tendency to disease must have a deeper, or constitutional, origin.

In his experience the most common constitutional cause of caries was Syphilis, and he was strongly inclined to believe that the general prevalence of the affection was largely due to this cause. Dr. Richardson then proceeded to quote Professor Gross respecting the very wide diffusion of the syphilitic taint among all classes in the United States of America. Out of a population of forty millions, he estimated that about two millions were directly affected with the syphilitic virus. This estimate tallied very closely with that made by Dr. Holland of the number of syphilitic subjects in the kingdom of Great Britain, and Dr. Richardson himself had no doubt of the correctness of both these conclusions. It must be remembered that these figures referred only to adults, who might be reckoned as forming about two-fifths of the whole population; their offspring must also be taken into account, and he agreed



with Dr. Gross that it was very doubtful whether *any* of the offspring of persons affected with this disease could be considered free from the taint.

The peculiarity of the secondary effects of syphilis was that, whilst it interfered with the nutrition of all parts, it led to special derangements of nutrition in the fibrous and osseous textures of the body. Contracted in adult life it did not materially affect the dental structures, though in former years caries as the result of mercurial treatment was common enough; but the hereditary constitution left by syphilis was undoubtedly indicated in the next generation by disease of the teeth and by a constitutional state in which caries was readily developed. The results of his own observations fully confirmed those brought forward some years ago by Mr. Jonathan Hutchinson.

Next to syphilis as a constitutional cause of caries, he would place Dyspepsia. Many would no doubt give this the first place, and he would admit that it was difficult to say which was the more important. The form of this disease which produced the greatest amount of evil, was that which was induced in the first months of life by improper feeding, and especially by the substitution of artificial foods for the natural breast milk. Dr. Richardson thought at one time that the effects of dyspepsia in producing caries were only developed in the period of infancy, and he still thought that this was the most common time for the commencement of the evil. The child being deprived of its natural and admirably adapted food, and supplied with nourishment which its stomach could not digest nor its body assimilate, its tissues generally were imperfectly constructed. And, although, it might retrieve in after life some of the harm which had been inflicted in the case of tissues which were constantly undergoing reconstruction, in the case of such structures as the teeth, which were made for the whole of life in a few critical months, perfection was impossible if the start was bad.

Dr. Richardson thought that the influence of the strumous or scrofulous and the tubercular diatheses in producing caries had been exaggerated. The scrofulous and the tuberculous often suffered from very obstinate and troublesome dyspepsia, and the grafting of syphilis on struma produced some of the worst results with which a physician ever had to deal; but excluding these causes, he did not believe that struma, by itself, necessarily predisposed to caries. The dentist saw many strumous patients with bad

teeth and held the diathesis to be the cause, but the physician was often surprised to observe, amongst all the havoc which struma inflicts upon its victims, how wonderfully the teeth escape. The same might be said of the large number of tuberculous patients who annually came under his notice.

At one time there had been a great controversy as to whether the epidemic diseases of children exerted any influence on the permanent teeth, leading to caries in later life ; but careful observation, extending over more than twenty years, had convinced Dr. Richardson that these diseases had no such after effects.

Practically then the constitutional causes of caries might be said to be two in number—the hereditary taint of syphilis, and the occurrence of dyspepsia, and consequent faulty nutrition during the time when the teeth were being developed.

Dr. Richardson then passed on to consider the local causes which, acting secondarily, were apt to call forth caries. He believed that caries was rarely of purely local origin, but when there was organic failure of nutrition within the tooth very slight external causes, acting physically or chemically, would produce rapid effects. A few such direct local causes had been asserted, but he believed that they were comparatively of slight importance. They were—the action of heated fluids taken into the mouth, the action of acids upon the teeth, deficient cleanliness of the teeth, and, lastly, exposure of the teeth to the action of certain chemical substances during work at some special occupations. He had met with one or two instances in which toothache and caries had apparently resulted from cracking of the enamel consequent on taking heated liquids into the mouth, but he thought the direct causation was open to some measure of doubt. With regard to the second cause, he had never been able to satisfy himself that acids taken into the mouth simply in solution with food played any direct part in the production of caries. Deficient care in cleaning the teeth might under certain circumstances be a cause of caries, though the fact that this disease was rare amongst uncivilized nations and animals, showed that if the secretions of the mouth were healthy, systematic cleaning of the teeth ought not to be necessary. He thought that amongst dirty people smoking favoured caries by deranging the secretions, leading to deposits about the necks of the teeth, and setting up disease below the level of the enamel. The action of corrosive substances upon the teeth of those who were engaged in certain industries produced

decided effects in some few instances, but these were not so extensive as might have been supposed. Those who suffered most from this cause were fur-dyers, who were constantly exposed to the fumes of nitric acid used in preparing the skins, chlorine-workers, bichromate-workers, bronzers, and in a less degree, flax-dressers and tobacco-workers.

There were two points on which he thought that the experience of the dental would be instructive to medical practitioners. First, did caries ever proceed from without inwards in the direction of ulceration? and, secondly, when one tooth had become carious, was it at any stage of the disease liable to directly contaminate teeth that were in immediate contact with it? The popular opinion on both these points was no doubt affirmative, but he had some doubts in his own mind, and should be glad of reliable information. In the latter case especially he thought that the caries of two adjoining teeth was more likely to be due to the exposure of both to the same cause than to direct infection from one to the other.

In conclusion, he would urge upon the members of the dental profession the importance of impressing upon all with whom they came in contact the necessity of living a better and more natural life if they wished to exorcise the terrible disease which was demoralizing civilized humanity, and of assisting to promulgate the natural law that it was the duty of every mother of whatever rank to nurse her child, and gradually to lead its vital steps into healthy independent existence.

The PRESIDENT said that from his knowledge of Dr. Richardson he felt sure that he would give a good paper, but he had not expected that he would open up so wide a field for discussion as he had done. With regard to the questions to which he had requested answers, he thought that in both cases the popular answers would generally be allowed to be correct. There could be no doubt that, except in rare cases, caries spread from without inwards, and that caries generally depended on an external cause was shown by the fact that if in a badly decayed tooth the decay be covered over so as to exclude external influences, the process would be arrested or greatly retarded.

Mr. MUMMERY said he was surprised that Dr. Richardson had not noticed a cause of dental caries to which attention has been recently called by Dr. Kingsley in a paper read before the Medical Congress. There could be little doubt that constant mental excitement had much to do with the loss of the teeth. Amongst

civilized races it was found that as the size of the brain increased, that of the jaw diminished, and the teeth were less perfectly developed, and that generally a low intellect was accompanied by a large jaw.

Mr. COLEMAN said that having been a colleague of Mr. Hutchinson at the time he was engaged in prosecuting his enquiries respecting the effects of syphilis on the teeth, he had been led to take great interest in the subject himself, and his experience was that the teeth of syphilitic persons were scarcely more subject to caries than those of other delicate individuals, and he was disposed to attach much more importance to the use of soft food and other incidents of civilized life than to syphilis. With regard to Dr. Richardson's questions, he thought that the fact that a carious tooth could infect its neighbour was proved by the common observation that if a carious tooth was allowed to remain long in the mouth, the one next to it was pretty sure to be affected, but that if it was removed at an early stage of the disease no more caries appeared.

Mr. ARTHUR UNDERWOOD said that some investigations which he had recently been prosecuting went to prove that the chief local cause of caries was septicity, the presence of germs; if germs were excluded, you might apply what acids or fluids you chose without causing true caries, their presence was a *sine quâ non* for its occurrence. At the same time, there must also be a constitutional predisposition, or weakness, which might be due to syphilis or to improper food, or to some other cause.

Mr. OAKLEY COLES remarked that there were two causes of caries to which Dr. Richardson had not alluded; it was very liable to occur as a sequel of exhausting diseases, as after typhoid fever, and also as a result of undue impact between teeth. The cause in the latter case was mechanical, the concussion of the teeth in mastication caused cracking of the enamel, the cracks admitted germs, and decay resulted.

Mr. D. HEPBURN said he had for some years past carefully watched the effect of tobacco smoking on the teeth, and had come to the conclusion that it was rather beneficial than otherwise, and that confirmed smokers were rather less liable to caries than other people. He would, however, admit that in the case of those who smoked to excess, the nicotine might cause a lowering of the system, and that this might react upon the teeth.



The discussion was continued by Mr. Hutchinson, Mr. Charles Tomes, and Mr. Mummery. Dr. Richardson then replied, and the meeting was adjourned.

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### Reports from Abroad of the International Medical Congress.

Almost all the foreign dental journals lately received contain notices of the proceedings of the International Medical Congress with, of course, special references to Section XII, whilst abstracts of the papers read, and reports of the discussions, founded on those which have appeared in these pages, are being published in America, France, Germany, and Hungary. We have thought that a few extracts from the descriptive accounts might interest our readers, though these, if set out in full, would be found somewhat monotonous, seeing that they all deal with the same facts and incidents in uniformly complimentary language.

Among the American journals, the *Dental Register*, of which one of our visitors, Dr. Taft, of Cincinnati, is editor, contains the following.

“Of the Dental section it can justly be said that the hours of its sessions were crowded with interesting matter; indeed, it was necessary to economize the time, and work very closely to the programme in order to get through it all in the time allotted. Two or three of the papers have already appeared in the *Register*, and others will follow; they will repay a thorough reading and careful study.

The social features were upon a grand scale, such as will never be forgotten by those who enjoyed them. The entertainments were far more numerous than could be attended by any one person. What with dinners, collations, conversaziones, garden and lawn parties, excursions, and the open doors of almost every place of public interest in and about London, one was almost in a state of bewilderment. The Dentists of London and vicinity entertained their guests right royally, and in such a manner as to strengthen the bonds of professional brotherhood, and give an impetus in this direction that will increase and grow stronger as time rolls on. The memory of that occasion, or occasions, will ever be a precious inheritance to those who were so fortunate as to be present. May the entertainers be as richly blessed as those who were entertained.”

The *Ohio Journal of Dental Science* contains a pleasantly written account from which we take the following.

"The Congress was divided into sections, each representing a special branch of medicine. For the first time in the history of our profession, our specialty was assigned a section. We have well earned such a distinction, and should have had it long ago. I believe it is a well recognized fact that no other branch of the healing art has made more, or as rapid progress as our own; and I feel quite sure that recognition will make us still more diligent and anxious to go on to perfection. The dental section met each day from ten to one o'clock, in the Burlington House, under the presidency of Mr. Saunders, dentist to the Queen, and the secretaryship of Mr. Tomes, Jr.

Many good papers were read by the English, German, French and Americans, and the discussions were lively and interesting, on the leading subjects of interest to the profession. It was a novel sight to hear the topics treated so ably, first in one language and then in another. All seemed to be striving for the one great object, i.e., the lessening of human suffering.

A clinic was held each day at the London Dental Hospital, where ample provision had been made for demonstrations of every class of operations in dentistry. There seemed to be no lack of operators, all anxious to show the best way to do it. There were also exhibited all the newest inventions in the way of dental appliances, both from Europe and America. The brethren in London seemed to vie with each other in entertaining the visitors with invitations to luncheons, dinners, and garden parties. In fact, the city officials, together with the medical and dental professions, did everything to make the visitors comfortable and happy."

Amongst the French journals, the *Gazette Odontologique* contains a highly complimentary report from the pen of Dr. Mordaunt Stevens, its editor. He says, "We were everywhere received with the greatest kindness, were invited to entertainments by the Lord Mayor, the College of Surgeons, the Odontological Society, &c., whilst private hospitality vied with that of the great Scientific Corporations. Nothing more delightful could be imagined than the receptions of Messrs. Saunders, Tomes, and other equally distinguished individuals. . . . The establishment which we visited with the greatest interest was naturally the Dental Hospital of London. We saw there operations performed not only by members of the hospital staff and by the students, but also by dentists from all parts of the world," &c. *Le Progres Dentaire* gives an equally satisfactory account.

It is unnecessary to say anything about the German and other notices further than that the writers appear to have been, without exception, thoroughly pleased with the Congress arrangements and with their visit generally.

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### Progress of Dental Education on the Continent.

A SCHOOL of Dental Surgery was opened at Geneva, on the 22nd ult. It has been established under the supervision of the State Council, and in connection with the University, where the lectures on scientific and medical subjects are delivered, clinical and practical instruction being given at the new school. From a perusal of the prospectus we find that the diploma of Surgeon-Dentist can be obtained by examination after attendance on the practice of the school for one year. The examiners are chosen from among the Professors, assisted by independent Assessors nominated by the State Department of Public Instruction, and the final examination, judging from the requirements given in the prospectus, would appear to be very complete and practical.

We have also received the second annual report of the Ecole Dentaire Libre de Paris, which was established last year after a considerable amount of opposition from a certain section of the French Dental profession. We are glad to see that the School can already boast of forty-six pupils, and that its success seems assured. The diploma is obtained by examination after not less than two years' attendance on lectures and hospital practice.

There has been for many years a School of Dentistry in connection with the Paris School of Medicine, but it was only open to those who could afford to spend four years in the acquisition of the ordinary medical and surgical qualifications, the consequence being that many practised without any legal qualification, and others were compelled to go abroad in order to obtain a diploma. For the future there will be no excuse for the first course, since the second may be carried out with comparatively little inconvenience or expense.

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### Appointments.

MR. DAVID HEPBURN L.D.S.Eng., has been elected Surgeon to the Dental Hospital of London, vice C. J. Fox resigned.

Mr. Alfred Smith, L.D.S.Eng., has recently been appointed Assistant Surgeon to the National Dental Hospital, Great Portland Street.

## The Relief of Toothache by the Application of Nitrite of Amyl and Nitro-Glycerine.

Dr. F. P. ATKINSON states in the October number of the *Practitioner*, that, after reading Dr. Murrell's experiments with nitro-glycerine in cases of Angina Pectoris, he was led to suggest that in all probability it would be found useful in the same cases as nitrite of amyl. This idea has been proved by several writers to be correct, and he now brings forward another instance of the similarity in effect between the two materials. A short time ago, when suffering from a severe attack of toothache, he was led to apply, amongst other things, some cotton wool steeped in Richardson's compound anæsthetic ether, which contains nitrite of amyl. This at once gave instant relief; and he found that if, immediately on the cessation of the pain, laudanum was applied on some fresh cotton wool, the pain could be kept off regularly for four hours at a time. He now finds that a one per cent. solution of nitro-glycerine applied to the tooth has the same effect in stopping pain as nitrite of amyl, and has little doubt that as time goes on further instances will be brought forward of the similarity in effect exhibited by these two substances.

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### Annotations.

THE Annual Dinner of the past and present Students of the National Dental Hospital will take place on the 16th inst. (Tomorrow) at the Guildhall Tavern, Gresham Street, E.C.

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At a meeting of the Liverpool Dental Hospital Medical Board, recently held, Dr. J. R. Glynn, 62, Rodney Street, was elected Honorary Consulting Physician, in place of Dr. Macnaught, who has retired from practice. Dr. W. H. Waite, 10, Oxford Street, was also appointed Dean.

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MR. GEORGE LYDDON sends us some interesting statistics relating to his work as Dental Surgeon to the Reading Provident Dispensary, showing the relative number of Dental cases likely to arise amongst a given number of persons of all ages. From these it appears that during the five years 1876-1880 the number of subscribers to the Dispensary gradually increased from



11,000 to a little over 13,000, and during the same time the number of Dental cases attended during the year increased from 341 to 543. Taking the average of the five years, the proportion was 460 Dental cases out of 12,000 members, or not quite 4 per cent.

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Mr. H. J. VIRGIN, of Oxford, was drowned in the Thames at Iffley, on the 20th ult., under very painful circumstances. At the inquest which was held, it was stated that he had been in ill-health for several months, and was troubled by pecuniary difficulties. Mr. Virgin was a member of the Odontological Society and obtained the L.D.S. Eng. in 1864.

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At a meeting of the Board of Examiners, held on the 28th ult., the following gentlemen, having undergone the necessary examinations, were admitted Licentiates in Dental Surgery of the Royal College of Surgeons of England, viz.:—Messrs. W. Snowdon Hedley, M.R.C.S., of the Army Medical Department; Francis Richardson, Derby; William A. Turner, Chichester; C. Browne-Mason, Exeter; and H. Parry Headdey, Oxford. One candidate was rejected.

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A COURSE of Lectures on Dental Surgery, especially adapted for Medical students, to be continued during November and December, was commenced at the Middlesex Hospital, on Wednesday, the 2nd inst., by Mr. J. Smith Turner.

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THE death is announced of Mr. R. Pratt, late of Broad Street, Golden Square, and well-known as a dealer in Dental requisites. It took place rather suddenly, on the 10th ult., at the residence of his daughter, in Coldharbour Lane, S.E.

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At a meeting of the Council of the Royal College of Surgeons in Ireland, held on the 20th ult., the following gentlemen were elected Examiners in Dental Surgery for the ensuing year:—John Henry Longford, Edward S. O'Grady, B. W. Richardson, Edward A. Stoker, Henry Gregg Sherlock, and Frederick Taylor.

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At the meetings of the Royal Commission for enquiring into the working of the Medical Acts, which took place on October 18th and four following days, fourteen witnesses were examined, amongst

whom were Mr. John Tomes, representing the British Dental Association, and Mr. Thomas Edgelow, for the Association of Surgeons practising Dental Surgery.

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MR. MATTHEW FINLAYSON, Alloa, passed his final examination at the Royal College of Surgeons, Edinburgh, and was admitted L.D.S., on the 20th ult.

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### Dental Hospital of London,

The Annual Dinner of the past and present students of this hospital and their friends will take place on Friday, December 2nd, at St. James' Hall, Regent Street, Edwin Saunders, Esq., F.R.C.S., in the chair. Gentlemen either now or formerly connected with the school and hospital who may, through inadvertence, not have received the usual notice, and who may wish to attend, are requested to communicate with David Hepburn, Esq., 9, Portland Place, W.

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### Review.

*Beiträge zur Zahnheilkunde.* Neun Abhandlungen von LUDWIG H. HOLLANDER, Prof. Dr. Med., Prakt. Arzt, Docent der Zahnheilkunde an der Universität Halle, Leipzig, 1881.

THIS little volume contains nine Lectures, most of which Professor Holländer delivered to his class during last winter. The subjects treated are of extreme interest, and the author appears to have consulted the latest writers on each subject, and has thoroughly brought his observations up to date. The treatment of each subject is marked by logical clearness of thought and of expression, and the whole is of a thoroughly practical nature. We have not, however, in the course of our perusal of the work, met with any modes of treatment which are not familiar to the well-read English dentist, though some of the procedures discussed, as for instance, the filling of the root canal with carbolized catgut, are seldom resorted to on this side of the channel. On the whole the book is to be recommended to those who read German, rather for its clearness of exposition than for any new material that it contains.

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### Royal College of Surgeons of England.

THE following were the questions submitted to the candidates at the examinations for the License in Dental Surgery which took place last month.

*Anatomy and Physiology.*—1. Describe the course and branches of the internal maxillary artery. 2. Describe the functions of the tongue and the nerves concerned in each.

*Surgery and Pathology.*—1. What do you understand by a ranula? Give its symptoms, pathology and treatment. 2. Give an account of the process of healing (*a*) of a simple incised wound, and (*b*) of a lacerated contused wound.

*Dental Anatomy and Physiology.*—1. State the periods of eruption of the several temporary teeth. Into what groups do they, in this respect, admit of being divided? and what pauses occur in the process? 2. Describe the structures met with in a complete vertical section through the sac of a developing tooth at the period of commencing calcification. 3. Mention the various modes of attachment of the teeth to the jaws, and give examples of each variety.

*Dental Surgery and Pathology.*—1. What are the most frequent causes of death of the pulp? By what structures are so-called dead teeth in relation with surrounding living tissues? and what morbid conditions may lead to their ultimate loss? 2. State the conditions under which you would consider the following materials the most suitable for filling teeth, viz., gutta-percha, zinc oxychloride, zinc phosphate and copper amalgam. 3. Describe the morbid appearances and ordinary causes of the different conditions known by the names of gingivitis, Riggs' disease and blue gum.

Candidates were required to answer at least one of the two questions in the first and second papers and two out of the three questions in each of the other papers.

#### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.O.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.

# THE JOURNAL

## OF THE

# BRITISH DENTAL ASSOCIATION

A

MONTHLY REVIEW OF DENTAL SURGERY.

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THE MEDICAL DIRECTORY FOR 1882.

Messrs. Ash have kindly consented to act as agents for the supply of this work, and all practitioners are particularly requested to order copies of the Directory for 1882 ONLY through this channel, as the future publication of the list of Dental Licentiates is probably dependent upon the amount of support thus shown by members of the Dental profession.

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1881.

ANOTHER of a series of eventful years in the home history of Dentistry is drawing to a close, and its records must possess a supreme interest for those who are concerned in the prospects, or partaking of the progress and development of our profession.

The Medical Congress of 1881 was the most successful of any such gathering hitherto held, and it completed the scope and circle of its subjects by allotting a special section to Diseases of the Teeth. The year in which this happened is one to be remembered, and the circumstance is a matter of extreme congratulation to all of us. But this was not all. In order to ensure that the subjects brought forward should receive the attention of, and be discussed by, those best qualified and most competent to do so, the

Governing Body with enlightened liberality relaxed their general rules and thereby afforded a tacit acknowledgment that there were Dental Surgeons who, although they might not be general surgeons, were nevertheless in their special requirements quite equal to those who were. The work done in the Dental Section was on all hands admitted to be equal to that of any other section of the Congress, and thanks to the generous concession of the Executive, the Dentists were enabled to show that although they have established a special education to fit them for the peculiarities of their calling, they have no wish to shirk their share of the more abstruse labours which alone will place them on a par with their medical *confrères*. By a happy selection the four leading officials of our Section were gentlemen whose position, either as professional or scientific men, is not surpassed in any branch of medical practice, and, as might have been expected, their courtesy and hospitality were more than equal to the occasion. That a Section so constituted and so presided over proved an eminent success, whilst highly gratifying, is hardly to be wondered at. The number of foreign Dentists which the attractions of the Congress brought amongst us, and the evident satisfaction they manifested with what they saw and heard, and the advantages we have derived from their contributions to the literature of our Section, must form the groundwork of the pleasing and profitable recollections of the waning year.

But it is not only to the Congress that we attribute as memorable in dental matters the year 1881, although it alone would have made it so. The Odontological Society has been fortunate in being presided over by one whom former experience had proved to be an excellent chieftain, and who, during the past year, has shown that none of hi

qualities for administration had slumbered in the interval between his two Presidencies. Under his guidance the Society has shown, not only by the additions to its list of Members, but also by the crowded state of the room at the evening meetings, that its powers for growth and progress are still vigorous. One of the most gratifying features of the meetings is the great development of the debating power of the Members. The criticisms which a paper receives are now sufficient to satisfy the most exacting authors, and the time allowed for discussion seems to be too short for the purpose. Time was when the presence of a distinguished visitor was a source of anxiety to the young Society. Now distinguished authors repair to its meetings with the assurance that any subject having even a remote relation to our speciality will receive ample and profitable analysis from the Members.

In connection with the gentleman who this year presided over the Odontological Society, we gratefully remember his liberal and highly successful *conversazione* on the eve of the opening of the Medical Congress.

Last, but not least, our Association has not been idle, and the record of the first Annual General Meeting of the British Dental Association has to be included in the annals of the closing year. During the brief period of our existence we may not have been able to do all that was expected of us, or all that we have wished. We have not yet purified the Dentists' Register, suppressed advertising, or educated every Dentist to a high standard of professional feeling. It has, however, been our privilege to have been presided over by one whose scientific attainments, aptitude for business and devotion to the advancement of our speciality, undoubtedly entitle him to be regarded as the head of our body. It is mainly through his instrumentality that the profession is now beginning to grasp and



turn to account the privileges won for it during the last quarter of a century, whether social, legal or scientific, and whatever has been achieved during the past year must be attributed to his directing efforts, seconded by the executive who work with him. The Association has furnished the Medical Council with legal opinions second to none, which declare that persons registered as Dentists in connection with pharmacy, not being registered under the Pharmacy Act, have no legal status upon the Dentists' Register.

During the year the Association has become greatly strengthened by the adhesion of the Western Counties Dental Association; a body whose influence and importance may be well estimated by a perusal of the admirable address of its President, and the excellent papers read at its annual meeting at Bristol, last July. More recently we learn that efforts are being made to establish an Eastern Counties Dental Association, which we doubt not will, like the Midland and Western Counties Associations, become a branch of the British Dental Association.

On an independent application the Medical Council passed a resolution at its last session for the purpose of enabling members of the profession to insert in the Dentists' Register any Qualifications they may possess other than that of the L.D.S.

The opportunity afforded to the Association of appearing before the Royal Commission on Medical Acts was fully appreciated by our President, who urged our professional claims and privileges as set against the theories and crotchets of a few gentlemen who hide their weakness under the assumption of a long name, and claim to represent the profession on the strength of as many tens as we do hundreds.

It is rare to be unable to record during the course of twelve months' some loss that we may not have occasion to deplore, and during the past we have had removed from us by death, amongst others, three of our *confrères*, who were truly eminent for having conducted large practices in a strictly professional spirit, as well as for the excellence of their operations. The admirable work of Mr. Norman King, of Exeter, and of Mr. Normansell and Mr. Sheffield of London, will for many years outlive themselves.

"John Brown's body lies mouldering in the grave,  
But his soul goes marching on."

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### The Anti-Vivisection Agitation.

It is impossible that the Dental branch, any more than other departments of the medical profession, should remain indifferent to the fanatical opposition to the progress of physiological research which is now being manifested by the societies which have been formed to advocate the prevention of vivisection. The legislation which was carried out a year or two ago, is ample to guard against the infliction of wanton cruelty, and, indeed, it is doing much to restrict even legitimate experiment. It seems a pity, therefore, that the Society for the Protection of Animals from Vivisection, in their recent procedures, should not have exercised more care, lest in the heat of their zeal to guard inferior animals they inflicted suffering upon individuals of that higher species,—man. It is, indeed difficult to conceive anything of the kind more inconsiderate, not to say cruel, than the recent proceedings against Professor Ferrier. Had the Society made more careful enquiries they might easily have satisfied themselves that the men of science against whom, on the strength of an imperfect newspaper report, they recklessly preferred a false charge, were of such a character as to preclude the possibility of their doing anything in violation of a law

with whose provisions they were fully acquainted, and there can be no doubt due enquiry would have revealed the fact, which at once came out before the magistrate, that all the experiments in question had been performed in strict accordance with the law. Instead, however, of the Society displaying the least charitable consideration of any kind, proceedings of the most offensive character were instituted, no previous notice being given to the defendant, a police court summons was applied for, injurious *ex parte* statements were in consequence published, and a scientific worker, whose discoveries have already proved of the highest value to mankind, was brought before a police court on what proved to be a totally groundless charge.

We were pleased to see that in view of this deplorable prosecution the whole scientific world, headed by the illustrious Darwin, hastened to express their sympathy with Dr. Ferrier, and to offer him their support. Dr. Ferrier has, we understand, characteristically expressed his desire that the first projected practical outcome of this feeling should not take the form of a testimonial to himself; and it has therefore been decided to divert the already offered funds towards the formation of an Association for the purpose of adopting such measures as may be thought desirable to prevent the recurrence of unjust attacks upon biologists and men of science who may become subject to interference by the opponents of experiments upon animals. The names of a committee will be shortly published, and in the meantime communications may be addressed to Dr. Lauder Brunton, F.R.S., 50, Welbeck Street. We hope to see the names of many dentists on the list of subscribers.

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### The Registration of Additional Qualifications in the Dentists' Register.

GREAT disappointment was felt when the Medical Council, under legal advice, decided against the entry of Surgical as additional to Dental Qualifications in the Dentists' Register. Further consider-

ation has led to the abolition of this ill-advised rule. Our readers are aware that the Council in full session determined that Surgical should be entered as additional to Dental Qualifications; and the new rule will be carried into effect in the forthcoming Register for 1882, in the case of those persons who make application to the Registrar, supported by the production of their diplomas, or by reference to the record of them in the Medical Register, accompanied in either case by a fee of five shillings for each additional qualification. But it must be distinctly understood that *application must be made* to the Registrar, General Medical Council Office, 299, Oxford Street, London, W., otherwise the possessor of an additional qualification will not, indeed cannot, be credited with it in the new Register.

To neglect this opportunity of Registration now offered, will, to say the least, be but a poor compliment to those members of the Medical Council, who, in our behalf, interested themselves in obtaining a reconsideration of the Qualifications question, and to whom we are indebted for the new rule.

### On Scientific Enquiry.

*An Address delivered before the Odonto-Chirurgical Society of Scotland,  
November 10th, 1881,*

BY THE PRESIDENT, DR. JOHN SMITH, F.R.C.S.

THE chief end of a Society of this nature, I need not say, is the promulgation, the diffusion, the communication of useful or interesting knowledge, especially in its own department of science. This may be effected in one case through the medium of conversation, in another by actual demonstration, and in a third by studied and formal written communications. Further, such knowledge may be itself derived from the three sources; first, of investigation and research; second, of direct observation, and casual or incidental experience; and thirdly, from that source which affords perhaps more scope and opportunity for general discussion and the expression of opinion, namely, where the contribution is founded upon certain plausible theories or specious hypotheses, originating in the mind of the contributor, or, it may be, on some occasions, only existing in his exuberant fancy or fertile imagination.

But whatever may be the mode adopted in conveying such information, and whatever may be the source from which it has originally sprung, its value will always be proportionate to, or



altogether dependent upon, the nature and the amount of the evidence adduced in its support, and the integrity and amplitude of the manner in which such evidence has been examined and investigated. And this brings me to what I may set down as the main subject I have here to submit to the Society, namely, a consideration of some of the peculiarities of those data at our disposal for the determination of enquiries in the physical sciences, and the method according to which such data ought to be regarded and made the subject of deliberation.

Among the different species of evidence to which the enquirer in natural science looks for information, there is scarcely any form presented more frequently, or possessing greater importance, than that of statistics—in other words, a group of absolute and similar facts multiplied till it becomes so large as to justify the acceptance of some given conclusion to be drawn from it. In speaking before a Society of this nature, I need not enlarge upon the value of data of this kind, when accurate, in the advancement of medical science and its associated branches. But it may be well, on the other hand, to keep in mind that evidence presented in such a shape is always open to serious errors, mistakes, and fallacies, from which the precise and unmistakable demonstrations applied to mathematical reasoning are completely free. And it is this consideration which should enjoin upon us the most watchful caution, and a prudent reserve and hesitation, in adopting or accepting as conclusive, in anything like a rash or precipitate manner, results founded upon such a method of enquiry.

In mathematical reasoning, the mind is compelled to accept as absolute certain evidence which, in the nature of things, admits of no manner of doubt whatever. In the physical sciences, however, our conclusions are drawn or reasoned out from data which are in many ways fallible. But bearing this in mind, and refusing to accept any conclusions until the data upon which they are founded are verified by observation and experiment—until every condition necessary for trusting to conclusions drawn from them is complied with—if we are careful that no omission of any essential consideration, no admission of what may be spurious and accidental, no neglect of the balance of probabilities—no such sources of error are overlooked—the mind can little more hesitate to accept the evidence of such data than it can to admit the truth of a mathematical demonstration.

Unfortunately, however, while on the one hand that completeness

and authenticity of data here implied is by no means always secured; neither, on the other, is the mode of investigating such data all that could be desired in scientific research. Bias, partiality, prejudice, self, in the one case, and ill-founded, ill-assorted, ill-digested evidence, in the other, lead to many errors, and consequently to the reliability and the teachings of statistics being so very generally questioned and mistrusted as they are.

It is much more difficult than at first might be supposed, to avoid a certain prepossession in favour of one's own opinions, in reading the data available for scientific research. The mind inclines to some one or other side of the question, till, insensibly to ourselves, everything seems favourable to those conclusions we inwardly desire or wish to be true ones. We resolve to maintain—impartially, of course, as we suppose—our own opinions to be correct; but our high estimation of them leads us to dress and set them off, as John Locke long ago wrote, to the best possible advantage, misinterpreting or changing the meaning of what is pertinent to the question, and often adducing, as if in support of it, ideas foreign to, and which neither elucidate nor strengthen its real position, but help to carry conviction in our favour.

Even, however, with every care exercised, both in regard to the sufficiency of our data, and the fidelity exercised in their examination, it would appear as if the work of time were over and above required for the more complete apprehension and full mental digestion of the information thus afforded. The mind of man is slow in making acquaintance with things, and in taking in new truths; and this must be kept in mind, before we can safely or justifiably pronounce, even after every care bestowed upon them, that our conclusions are final, exhaustive, and exact. Certain evidence, and the first opinions founded upon it, may, at the moment, appear incontrovertible; but as years roll on, and afford time for mature reflection, and as other and additional truths arise, side by side with those already existing, we may find, on going over the self-same field once more with such super-added elements to assist us, that all its former aspect is now changed, and appears altogether defective and fallacious, teeming with oversights, and most strangely full of errors. Thus the rich store-house of incontestable facts, opened up in anatomy during the fourteenth century by Mundinus of Bologna's first dissection of the human body, followed by such early workers as Vidian, Sylvius, Vesalius, Eustachius, Fallopius, Varolus Casserius, Cesalpinus—

names which will endure as long as anatomy itself—has, for ages, afforded materials upon which no end of theories, in regard to the brain, the heart, the uterus, the respiratory and all other organs, have, over and over again, from their remote day down to our own, been advanced and accepted, to be only, and before long, rejected and found wanting. Time, and little more than time, was required to discover that what had been approved, and apparently substantiated with axiomatic incontestability, from time to time, was, each in its turn, found to be palpably erroneous, altogether misunderstood, and a complete mistake; and it becomes us to remember this in advancing those views, and opinions, and conclusions, necessarily entailed in the communications incident to a society such as ours, in order to their enduring with that stability, and power, and credit, which we all would naturally desire.

There is another source of fallacy to be guarded against in the reading of statistics and such data, and that is limiting our search exclusively to what may be little more than one factor in the aggregate range of the enquiry; *i.e.*, either through inadvertance, or intentionally neglecting the consideration of collateral facts, and thus failing to grasp, to its fullest extent, the teaching of such evidence as may be more immediately before us. This is allied to that sort of sophism which logicians term an *imperfect enumeration*, or *false induction*, when from a few experiments or observations, we infer general theorems, and universal propositions. An over-credulity in the assertions of others forms an important element in this species of error, and often in this way becomes a source of much trouble and confusion, in the advancement of science. Rooted errors and old prejudices, have ever been, and still are, most difficult to remove. Common opinion, as it is termed, is most sturdy in its own defence, and only too ready to appeal for support to some vague standard of general belief, or even to attempt substantiating its creeds in direct violation of the most ordinary laws of nature. Yet we find such popular notions and current beliefs, in many cases, treated as if they were scientific truths. And it too frequently happens, while carefully securing the validity of one set of facts, that we neglect to make equally sure of others, accepted and adduced on the same footing, and as part and parcel of our data: we neglect making sure that we are not taking them for granted with an overweening, and too implicit confidence.

I have spoken of the necessity for exactitude in our data, of fidelity in their examination, and of time being required for con-

firming the correctness of our conclusions. Each of these considerations, as I have said, it is essential to keep before us, in framing the communications, and conducting the debates, incident to a society of this nature; since, without some such careful watching of the operations of the mind, our perception, apprehension, and conception of things, become indistinct and erroneous; our judgment of them false; and our reasoning and argumentation ill-founded and misleading.

And while offering a few condensed thoughts on such subjects, many instances of their application will no doubt occur to any one who reflects upon them. As an example, we may take the alleged deterioration of health in modern times, the appearing among us of new types of disease, the outcry as to increased prevalence of others, and among such themes, more especially appertaining to our own department, even the asserted increase of dental disease. These are a class of subjects frequently brought under the notice of practitioners; and certain fractional statistics, certain special and adventitious circumstances in modern life, are, as we know, constantly suggested as affording some clue by which the mystery is attempted to be solved. Feeding, domestic surroundings, luxury, medicine, drainage, hereditary tendencies, a host of hypotheses are advanced each of which has its strenuous supporters, and often a very considerable show of reasonableness about it. But, if we think of it, there is in reality far more than any one of these to be taken into account, if we would fairly judge in any questions of this kind. It is not alone the surroundings of the present day that affect the health, or the diseases, or the mortality of our population. Besides looking at what goes on around us, we should require to lift that curtain that shuts off the past, and hides and helps us to forget the times gone by. We should require to wander backwards from the present time, through generation preceding generation, and mark the innumerable, the enormous changes through which society has travelled since the dawn of modern civilization; some of the incidents and phases of the way, its ups and downs, the storm and sunshine, the good and evil, met with on that long and up-hill road, over which, what is termed its "march" onwards to our own time, has been accomplished. And if we would take these things into account, as well as and in addition to, all the ills attendant upon our present artificial mode of life, and especially the growing tendency to congregate humanity in such swarms within our larger cities, it would at once be apparent that almost



unnumbered causes were at work as the instruments of deterioration. A large proportion of these data are, however, suppressed or misinterpreted, and a premature and unsound conclusion is the result. The delicacy of the rising race is talked of; that certain diseases are commoner than they were; that their prevalence is unaccountable, or due to this or that innovation, and so on, is thrust upon us, forgetting that under the accumulated agencies of which we have spoken, the whole physical character of the individual must have, so far, been modified and altered, even in what now is its state of health, and that there is, consequently, nothing very remarkable in its diseased conditions being also modified, and in some new ones being added to them. The wild flower, once defiant of the heats of summer, or the snows of winter, is now an artificial cultivated plant, difficult, perhaps, to keep alive, far more to maintain in health or vigour, with all the fostering shelter and most careful supervision of the hot conservatory.

I do not here, however, bring forward these matters in any controversial way, but merely as illustrative of my remarks, nor, need I say, am I intending either to confirm or confute the correctness of any allegations in regard to disease or mortality put forward at the present day. I merely adduce them as topics, which we, as practitioners, very frequently hear attempted to be explained, in a way exemplifying the reasoning popularly adopted in discussing such questions.

Not to occupy much more of your time, however, allow me to allude to one other point, in addition to data in the abstract, and the mode of dealing with them, and that is,—What would be desirable, if possible, in the recording, the compilation, the tabulating of statistics.

It may be considered chimerical or impracticable that so much and trouble should be expended in the keeping of statistics or in the classification of cases, such as we have to deal with, as would render our case-books so widely and absolutely reliable as scientific data, in all their bearings, on any question respecting them, as we could desire. We could, in our own sectional department, only approach doing so by records which could never, in the meantime, be expected to be kept. Without even attempting to exhaust the catalogue of all that would be demanded, we should, beside the mere class of tooth, the operation, the age, and sex of such cases as come under our care, require to tabulate,

among other things, and in some uniform and systematic manner, the history, appearance, constitution, and habits of the patient; whether sickly or ill-fed; whether the offspring of the diseased or vicious; the inhabitant of squalid, or badly drained or pestilential districts; the trade worked at, the hours of employment; the wants, the vicissitudes, the excesses, the moral defects of our patients. It is Utopian, I say, to expect that the time and trouble involved in such records should, under present circumstances at least, be devoted to them. But I have no hesitation in saying that it is to the growing tendency towards keeping such minute details that modern medical science owes much of its advancement; and it is hopeful that this tendency prevails. To it is due in great part much of our advances in the etiology and treatment of disease. Errors have been thus detected, the existence of unsuspected causes demonstrated, difficulties in harmonising what used to appear as conflicting evidence removed, and interesting and startling results achieved which a very few years ago would never have been dreamt of; and assuredly it is an end that we should see to being kept in view in the interests of our own special calling.

Lastly, and in a few words, a consideration of some of these departments of thought not only tends to a more sound mode of reasoning on such subjects as we may take up, but to a salutary development of the mental and reflecting powers, and fits for the more efficient discharge of the duties which a professional life invariably entails. What is gained is not merely knowledge—it is mental discipline. The method demanded of us in drawing conclusions from data in the physical sciences is a training which not only enlarges the faculties of the mind, but is essentially a healthy one in developing those characters of observation which are of the greatest practical importance.

And, moreover, a clearer and more perfect understanding of the phenomena of what we meet with in the natural sciences is to ourselves personally always a matter of satisfaction and delight. In saying so, I speak not in my own words only, but in the spirit of those who have with more power and eloquence, advocated such views as I have now here sketched out.

It has been said that such scientific study is opposed to the æsthetic faculties, and that, by imposing a restraint upon the imagination, they lower the mind to the prosaic standard of everyday life, and unfit it for the appreciation of what is higher, what

is poetic, what is beautiful. But these authorities to whom I appeal tell us it is not so. It is the physical sciences alone, they tell us, which open up to our comprehension the truths of the wide universe around us; and whatever is true is beautiful. It is a wide field—so wide, that no one mind can, any more than ourselves, obtain an adequate knowledge of more than a very very small district of it here and there. Each may select those portions of it, such as opportunity may offer or inclination suggest. But on whatever spots the choice may fall, they are to be trodden with careful steps, and passed over with observant eyes. In this way scientific enquiry becomes a gain—the acquaintance with its mysteries an unspeakable privilege; and as new truths find access to the mind, so much the nearer does it reach to the altitude and wisdom of the great first cause, more and more clearly encompassing and comprehending the mysteries, and unveiling the wondrous beauty and fitness of the world around us, seeing and realising the perfection of nature's laws, and withal becoming better as we become wiser,—looking, as we are thus constrained to do, from nature up to nature's God.

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## International Medical Congress.

### SECTION XII.

*Monday, August 8th.*

Mr. C. SPENCE BATE, F.R.S., Vice-President in the chair.

The Secretary, Mr. CHARLES TOMES, then read a paper on "The Causes of Irregularities of Position of Teeth," by Dr. Thomas Brian Gunning, of New York, who was himself prevented from attending. The author advocated the regulation of teeth almost as soon as they appeared, or very much earlier than it is usually the custom to commence such treatment. The relation of the jaws to the teeth and their alveolar processes, he said, needed to be explained, since they were not only imperfectly understood, but even misrepresented, it being asserted that the jaws were developed independently of the teeth and their alveolar processes, and that they might be removed without affecting the jaws. He pointed out that during the natural process of the evolution of the teeth, the upper jaw was supported by the lip, the nipple being held against the roof of the mouth by the stronger and more active lower lip, assisted by the less developed lower jaw; this tended to keep the lower jaw back

in its proper position, with the upper jaw projecting. He then went on to describe the normal changes of backward elongation and the successive addition of the first, second, and third molars to the back of the jaw. He altogether impugned the idea that some portions of the jaw grew independently of the teeth, and that the only portions directly dependent on them were the alveolar borders. As the lower permanent teeth generally appeared before the upper, so the expansion of the lower jaw was somewhat earlier than that of the upper. In the time between the completion of the first set and the appearance of the six-year-old molars, the lower jaw might grow so that its incisors would strike on the upper front teeth, and in order to avoid this the muscles would, in some cases, habitually hold the edge of the lower teeth forward. Or the jaw might be forced out of its natural position from too early loss of the upper temporary incisors, allowing the lower permanent ones to grow up in such a way as to be uncomfortable. When the milk teeth remained too long, the permanent teeth might be kept out of range, and the lower jaw might be habitually held out of its natural position in order to correct this. Again, the drawing forward of the lower jaw might be commenced through tenderness of the front teeth of the upper jaw, or if the teeth on one side were painful, the muscles might hold the jaw to one side, and this displacement—at first voluntary or instinctive—would in time become permanent. He had once met with a patient who, after a fall, had been treated for fracture of the jaw, when in reality it was only one of these cases of habitual malposition. As to extraction, he was of opinion that even if the teeth, as a whole, were too large for the jaw, they ought to be kept in to stimulate the growth of the jaw, so long as any further enlargement could be expected, and then only should such of them be extracted as could best be spared to make room for the others. In conclusion, Dr. Gunning complained that although the present generation of dental practitioners enjoyed much greater facilities as regards appliances, and although much had been written on the subject, he failed on careful inquiry to find anything that could give him the assurance that teeth were better regulated now than they had been fifty years ago.

Mr. OAKLEY COLES followed with a paper on "The Origin and Treatment of certain forms of Irregularities of the Teeth and Jaws." In his classification, already published, of the deformities of the upper jaw, he had endeavoured to establish the theory that



a large number of cases of irregularities of the teeth were due to a malformation of the jaw rather than to a mere displacement of the dental organs—that, in fact, the arrangement of the teeth was but the expression of a profound morphological change. In the present paper he would only call attention to that variety of the brachoid jaw in which the bicuspid region was the seat of lateral compression. In order to render the argument clear by which he had arrived at his conclusions, it would be necessary to refer briefly to the anatomy and growth of the parts which seemed to be involved in the development of the deformity referred to.

At birth all upper jaws were normal in size and outline, the antra were little more than rudimentary, and the intermaxillary articulation also was generally normal in character, the position of the lower jaw in relation to the upper, rarely affording any evidence of the changes to which they would afterwards be subjected. Whatever might be the influence of heredity, it found expression during the period of growth rather than of development, and was manifested chiefly at a date subsequent to the shedding of the deciduous teeth. In the healthy subject the face and jaws would arrive at a perfect state of development at about the age of puberty, the features would by that time have become permanently marked out by the gradual growth downward and forward of the upper maxillary bones and adjacent structures, the chief factor in these results being the growth of the body and wings of the sphenoid. If all the parts involved in the formation of the upper and lower jaws have grown in proper proportion to each other, the teeth would only be subject to such forms of irregularity as might arise from some purely mechanical condition confined to the normal area of the dental arch. But if, on the other hand, the jaws themselves had been subjected to any irregularity or inequality of growth, the entire dental arch would be the seat of well marked deformity, in the production of which the teeth themselves would be but an integral and not independent element.

In the deformity which he proposed to call attention to in his present paper, the six front teeth were crowded together, whilst the transverse space between the second bicuspid might amount in a severe case to no more than 5mm.; the first bicuspid, though inside the dental arch, were not so much misplaced. The external alveolar wall would show compression corresponding to that of the teeth. In many cases the lower jaw would be of unusual dimensions as compared with a normally developed jaw of the same age;

the interdental articulation was of course destroyed, the inferior dental arch passing outside the superior at all points. The mental outline was almost rectangular, whilst that of the ascending and horizontal rami was generally obtuse-angled. The soft palate was generally short, the vertex of the hard palate appearing high, and the tonsils almost invariably much enlarged.

This deformity was, he believed, due to an irregular and excessive growth of the external wall of the antrum on either side which had the effect of pushing the bicuspid portion of the alveolar arch inwards towards the median line of the hard palate. From the fact that the transverse measurement between the second bicuspid normally corresponds with a similar measurement between the posterior deciduous molars, and when we find the second bicuspid within five millimetres of each other, it was manifest that this region had failed to preserve the outline presented in the infantile arch, and that it must have been subjected to very considerable mechanical forces during the period of growth. Mr. Coles referred to a specimen in the Museum of the Royal College of Surgeons, illustrating the peculiar form of the walls of the antrum and upper maxillary outline found in the compressed brachoid arch, as well as the enlargement of the lower jaw. And also to a paper read before the Royal Society of Edinburgh twelve years ago by Dr. Smith, in which that gentleman had suggested a very similar explanation of the origin of the compressed brachoid arch to that which he (Mr. Coles) had since adopted.

Without going at length into the question of treatment, he submitted the following points: (1) That if expansion is tried, it should be expansion of the jaw with the teeth in situ in the first instance, and regulation of the teeth individually as a subsequent operation, rather than expansion of the dental arch by pressure applied to the teeth and their alveoli. And (2) the desirability of extracting the teeth that are out of position, and then restoring the contour of the arch by expansion; this applied, of course, only to the more severe cases. He brought this point forward because there seemed to be some danger that in the pride of professional skill, patients might be subjected to greater pain and risk in the endeavour to save teeth than would have been the case were they extracted.

DR. JOSEF ISZLAI, of Budapest, read a paper in German on "Carabelli's Mordex Prorsus and its relations to Prognathia Ethnologia, and to Meyer's Crania Progenæa." An exact system of

classification and nomenclature must form the basis of all knowledge which claimed to have a scientific character. With regard to Dentistry, considerable progress had been made in this respect, especially within the last thirty or forty years. But as to the various forms of Prognathism there was still the greatest confusion. Dr. Iszlai then quoted the classifications and definitions used by Carabelli and other authors, pointed out numerous obscurities and contradictions, and ended by describing a new system of classification suggested by himself. He showed an instrument invented by himself, by which the amount of deviation of the teeth from their normal line could be measured, and also an interesting collection of skulls illustrating the different varieties of Prognathism to which he had referred.

Mr. OAKLEY COLES complimented Dr. Iszlai on the interesting collection of skulls which he had exhibited, and called attention to one in particular, which exactly illustrated all the points to which he had referred in his own paper.

Mr. A. COLEMAN read a paper on "Erosion of the Teeth," an abstract of which appeared at page 566 of our last issue.

Dr. DENTZ, of Utrecht, said that Dr. Magitot's use of the term "erosion" was confined to himself. Members of the profession on the Continent made use, for the most part, of English works, or of translations of English works, and in the matter of nomenclature, they were quite ready to accept whatever their able English and American colleagues might decide upon.

Mr. CHARLES TOMES said he should like to ask Mr. Coleman whether he would give in his adhesion to the opinion expressed by several Continental writers, that erosion was simply a form of caries (*carie sèche*), in which the softened tissue was worn away as fast as it was softened. He would also ask him whether his observations had given him any clue to that very curious form of denudation in which the front teeth became shortened; the cutting edges of the incisors becoming so blunted and wasted, that they ceased to meet their opponents. The thanks of the Section were due to Mr. Coleman for the ingenuity with which he had endeavoured to explain the occurrence of erosion in places where, at first sight, one would think that friction could not play any part. It had always been a difficulty with regard to erosion, and particularly in the mouth of such a creature as the seal, to explain how the teeth could be exposed to friction, but the suggestion that the tongue, aided perhaps by silicious particles taken into the mouth, swept round the teeth

and produced these effects, was a very valuable one. He did not think that friction would fully account for all cases of erosion. It would, however, be noticed that in a right-handed person, the amount of wearing away of the teeth was very much greater on the side which was most efficiently reached by the tooth-brush. Therefore, although friction did not seem to account for everything, yet one could hardly doubt that it had something to do with the affection, since it was found that in right- and left-handed people, there was a reversal of the side of the mouth on which the greatest loss of substance took place.

Mr. GADDES mentioned the case of a surgeon-major in the army who had been under his treatment. This patient was a right-handed man, but the erosion was most marked, *not* on the left, but on the right side, both in the upper and lower jaws, extending back in the upper jaw to the first molar, which was very deeply grooved near to the gum. Being a right-handed man, he (Mr. Gaddes) had expected to find the erosion most marked on the left side, that on which one would expect the greatest amount of friction would be expended, but the contrary was the case. Three or four cavities which he had filled for the same gentleman, were so extremely sensitive that it was only with the greatest endurance that the patient allowed him to complete what was necessary to be done.

Mr. MAGOR, of Penzance, thought that although friction had something to do with the effects produced, it would not explain the whole of the phenomena. He had never yet met with a case in which the labial surfaces were polished, except in people who cleaned their teeth, but he had seen many cases in which denudation had occurred without polishing. He had seen the teeth very much worn away in the case of persons, such as fishermen and sailors, who were in the habit of chewing tobacco; one Irish fisherman had all his teeth, thirty-two in number, worn down almost level with the gums, the pulp cavities being filled with secondary dentine. He had met with a very peculiar case, quite recently, which was similar to that spoken of by Mr. Charles Tomes, where the central incisors were worn away and polished so that they ceased to meet the lower teeth. He was quite at a loss to account for such a state of things and should be glad to hear some explanation of it.

The Chairman, Mr. SPENCE BATE, mentioned a very interesting case of this kind which had come under his own observation. There was sent to him from South Wales a microscopic section of a tooth, and he was asked to give his opinion as to the cause of its



loss. The section was made in a singular way vertically through a lower incisor; it showed extensive erosion in front with deposit of secondary dentine within, especially round the internal opening of the canal; this appeared to strangle the pulp, which was larger both above and below this point, and highly vascular. He learned that the patient had for some time suffered great pain in this tooth, then abscess resulted and it was extracted. In reply he gave it as his opinion that the lady to whom it had belonged had been in the habit of using a considerable quantity of silicious tooth powder, or of some tooth powder possessing great frictional power. The answer returned to him was that they were satisfied that his explanation was the correct one, since it had always been a standing joke in the family that when this lady could not be found elsewhere, she was sure to be cleaning her teeth. He had always found that there was a greater liability to loss from erosion on the left-hand side of a right-handed person and *vice versa*. The case mentioned by Mr. Gaddes was one of those exceptions which proved the rule. When a man was conscious that he was right-handed or left-handed he might perhaps take it into his head in some particular matter to overcome his weakness. As to the effects of friction, it was known that some of the North American Indians, who lived chiefly upon fish dried in the sand, wear their teeth down; and again it was a common observation that persons who were in the habit of smoking a clay pipe wore their teeth down just at the spot where their pipe was usually held.

Dr. TAFT said he had been somewhat disappointed with the discussion; this was a subject which had always appeared very obscure to him and he had hoped to have some light thrown upon it. There were several varieties of abrasion, or wearing away of the surface of the teeth, and one at least of these was not explained by anything which had yet been suggested. The process might occur on the smooth surface of the teeth, cutting them down just as if a plane or chisel had been used, or it might burrow into, and form little cavities on the surfaces of molar teeth, and these cavities were sometimes of considerable size and of such depth that neither the tongue nor the tooth-brush could touch the bottom of them. The same thing occurred with the bicuspsids, which were sometimes scooped out at the end to such a depth that neither the tongue nor the lips could touch the inner surface. In some cases when these pits in the molars were filled there would be a continuance of the process round the border of the filling

and a little groove would be made, sometimes only at one small point and in other cases going half-way or all round the margin of the filling. Some of these manifestations of the affection would preclude the possibility of its being caused by friction, either by the tooth-brush or tongue, or by the fluids of the mouth. Smoking a clay pipe or using an improper dentifice would account for a certain amount of erosion, the most prominent portions of the tooth suffering the greatest loss of substance; but that was quite a different thing from the process he had described. When these cavities were filled, it was found that there was no wasting away of the bottom or beneath the filling, no wasting away of the wholly protected parts. He came to the conclusion, therefore, that it was due to the operation of outside influences and not to anything in the tooth itself. But what these were he could not say; he should be glad if, before the conclusion of the Congress, some of these difficulties could be cleared up.

Mr. COLEMAN, in reply, said he was glad to hear from Dr. Dentz that, as a rule, Continental practitioners were willing to adopt the name that Hunter had given to this disease, though Bourd , Fadell, and Magitot entertained a different opinion. In answer to Mr. Tomes' questions, he believed that certain changes were produced in the tooth itself which rendered it more liable to be worn away at certain parts. When they found an affected tooth which was exposed only to the same conditions as other teeth which were not affected, they could only conclude that the difference was due to some change affecting this tooth in particular and rendering it abnormally liable to the results of friction. Perhaps at some future Congress he might be prepared with clearer views and larger experience on this subject.

The Section adjourned.

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*Tuesday, August 9th.*

The PRESIDENT, Mr. Edwin Saunders, having taken the chair, the proceedings commenced with the reading of a paper on "Abscess of the Antrum," by Dr. TAFT of Cincinnati.

Having given a short description of the antrum and its surroundings, Dr. Taft proceeded to refer to some of the more simple affections to which it was liable. Thus if the canal leading into the cavity became closed, engorgement by watery or mucous effusion might occur. The closure of the aperture might be due to inflammatory thickening of the mucous membrane, or to

accumulation of thickened secretions about the orifice ; the escape of the natural secretion of the cavity being thus prevented, it accumulates and fills the space. The indications in the early stages would be a slight feeling of increased weight in the part and then a sense of fulness and pressure. Later the cavity might be expanded by the pressure within, causing, perhaps, protrusion of the cheek with sometimes thickening and redness of the skin. In some cases the contents of the antrum might remain for a long time serous, but more frequently they became after a time purulent and offensive. This was especially liable to occur where local causes of irritation were present, such as diseased gums, alveolar abscesses and diseased stumps in near proximity to, or perforating the floor of the antrum, and also if the patient was of bad constitution or in a bad state of health at the time.

If the health of the patient be good, the accumulation being due wholly to local causes, only local treatment would be required.

If the teeth are all free from disease, syringing of the nares should first be tried, with a view of bringing the mucous membrane into a healthy condition. If this does not suffice to re-open the communication, an instrument designed for the purpose may be passed through the canal in order to break down any adhesion or remove any obstacle that may exist. The removal of a sound, healthy tooth in order to obtain an entrance into the antrum, should only be resorted to when no other expedient is practicable. It was sometimes preferable to make an entrance through the anterior wall at the posterior edge of the canine fossa. But the most common plan was to perforate through the socket of one of the roots of the first or second molar. In most cases one or more of these roots would be found to perforate the floor, and then the opening would only require enlargement; but if, after removal of the tooth or roots, the floor of the antrum should still have to be cut through with an engine burr or trephine, care must be taken that no portions of bone are forced into the cavity. This should then be thoroughly washed out with a warm solution of chloride of sodium. Nothing more would be required in simple cases of engorgement, and in such cases too active treatment should be carefully avoided. But if the discharge is found to be purulent and offensive, stronger disinfectants and antiseptics would be required. Solutions of permanganate of potash, carbolic acid, tannin, and salicylic acid were useful under these conditions. In these cases also careful search should be made for some local source

of irritation, such as diseased teeth or necrosed bone, and attention should be paid to the general health of the patient. Suppuration in the antrum might be due to the presence of a tumour or polypus, as well as to a thickened and diseased state of the mucous membrane. In the first case the morbid structure must be removed through a sufficiently large opening, whilst in cases of chronic suppuration from a diseased mucous membrane escharotics, such as nitrate of silver, chloride of zinc, sulphate of iron or copper, and chromic and sulphuric acids, &c., were useful and often indispensable. Too active treatment with this class of remedies was a common fault, which must be avoided if the best results were to be obtained.

He did not propose to speak of the graver forms of disease which might affect this cavity, and which required for their successful treatment greater diagnostic ability and operative skill than the average Dental practitioner possessed, but he would direct attention to the influence of disease in this cavity upon other neighbouring structures. Dr. Taft then referred to cases in which the sight of one eye had been impaired or altogether destroyed by extension of the antral disease, attention being directed to the treatment of the eye and the real cause of the mischief being overlooked. So also severe neuralgia might result from pressure on the infra-orbital nerve, or on the superior maxillary and other nerves in the sphenomaxillary fossa. Cerebral disease, even, with the most serious and fatal results, had originated in disease of the antrum.

Mr. HUTCHINSON remarked that Dr. Taft had rather strongly deprecated the extraction of a tooth for the relief of antral abscess unless the tooth was otherwise useless. Mr. Cattlin, on the other hand, in a paper on this subject, which he read before the Odontological Society of Great Britain some twenty years ago, very strongly laid down the dictum that it was much better to sacrifice a tooth than to adopt milder measures. He wished to call Dr. Taft's attention to the beautiful collection of models of the antrum to be found in the Museum of the Odontological Society; amongst them were some very interesting specimens contributed by Mr. Cattlin at the time he wrote the paper just referred to. In one of these a partition of bone divided the antrum into two parts, and this peculiarity was found on both sides. He should also like to ask Dr. Taft whether he had tried the syringe invented by Mr. Clover for washing out the contents of the bladder



after lithotripsy. It was a sort of syringe and aspirator combined, which could be used to inject the purifying agent—chloride of zinc, eucalyptus oil, or whatever might be employed—and would then suck out whatever had been injected together with any fragments of bone, loose pieces of root, &c. If Dr. Taft had not made use of this instrument he would ask him to take it into consideration.

Mr. CHARLES TOMES said his own experience of antral abscess extended over but a small number of cases, but Mr. Coleman, who was not present, had asked him to say a few words. In the majority of cases of antral abscess it was quite unnecessary to use any syringe at all. The patient could be taught, with a very small amount of education, to fill his mouth with the lotion and force it through the opening that had been made into the antrum, whence it would pass through the natural opening into the nares, and run out through the nostril or into the throat. With a very small amount of trouble patients could be taught thus to wash out their antra most efficiently and thoroughly without being bothered with any syringe or apparatus of any kind, and that through a very small opening.

Dr. TAFT having briefly replied,

Dr. DENTZ, of Utrecht, read a paper entitled "A Suggestion that the term *Caries* be abandoned as inappropriate." He had been very glad to hear Mr. Coleman and Dr. Iszlai, on the previous day express a desire that the profession should be more accurate in its terminology. He thought that the question he had brought forward was one with which this Section of the International Congress had a perfect right to deal. Here were assembled the most eminent men in the dental profession and their opinion could not fail to have great influence on the profession at large. He did not propose that the term "caries" should be abolished altogether, but that it should be confined to its original and proper meaning, and he would ask them to express their opinion that the term "Caries of the Teeth" should be changed for some other. The following considerations had led him to make this proposal. It was not necessary to speak about the nature of caries of the teeth: to a certain degree that subject had been sufficiently treated, for, however different in other respects were the results of the various investigations which had been made, they all agreed in this, that caries of the teeth was altogether different from caries of the bones. Now if that was the case why should the same

name be applied to both processes? Those who happened to have studied both were able to distinguish one from the other, but members of the medical profession, who did not as a rule make a special study of diseases of the teeth, thought that "caries," as applied to the teeth and as applied to the bones, had the same meaning, that in fact the two processes were identical. As an illustration of this, he might mention that about eighteen years ago, when still a medical student, he resolved to pass an examination in dentistry, which in Holland was presided over by a commission consisting exclusively of medical men. The Professor of Surgery asked him what caries of the teeth was; not knowing any better he gave a description of caries of bone, and the professor was perfectly satisfied with the answer. He (Dr. Dentz) afterwards perceived the mistake they had both made, and into which they had been led by the erroneous name given to the disease. He found that dental students generally understood what caries of the teeth was pretty well, but then they had frequently not learnt what caries of bone was. The medical student generally confounded the two processes altogether, and it was most necessary to keep the distinction before him. They would scarcely venture to assert that the name they gave to the disease mattered very little, provided members of the profession understood each other mutually, and that they need not trouble themselves about medical men and surgeons. He ventured to say that the conditions under which they then met together, placed them under an obligation to adopt the proposition he had made. By establishing a Section for Diseases of the Teeth, the Congress Committee had not only paid its tribute to the labour of those who, with so much energy, talent and science, had brought their speciality into its proper place—amongst whom, without hurting the feelings of anyone, present or absent, they might well agree to assign the first place to Mr. John Tomes—but the Committee had also shown that it looked upon Dentistry as a branch of medical science, and as such they had no right to borrow a name from the surgical terminology and give it a meaning of their own which was not that which was usually understood by it. Having regard to all these considerations, he proposed the following as a resolution, if it could be submitted:—"That as caries of the teeth is a process totally different from caries of the bones, this meeting is of opinion that the term caries of the teeth should be replaced by another," and for this he suggested the Greek word "chaunosis," signifying "softening."

The PRESIDENT said he was of opinion that the Section could not take upon itself to determine any such question as that which Dr. Dentz had put before it, and that therefore it could not properly entertain the resolution which he had proposed. At the same time they were all much obliged to him for drawing attention to the subject, and he had no doubt that the idea so thrown down would fructify in the minds of many.

Dr. ATKINSON (New York) thought they should be careful not to decide hastily what the nomenclature should be, until they could say that they thoroughly understood the differences between the two processes. He believed that the molecular changes upon which these depended were as yet so little understood, and so little studied, as not to entitle them to establish any nomenclature that should be binding. But as it was suggested that they should lay aside the term "caries," he would propose in its place the word "decadence," from *decado*, I fall down. He doubted whether they would find a better word, either in English or in the classics, to signify the progress of decay than that.

Dr. DENTZ said he did not wish to attach any particular signification to the word he had proposed. Dr. Atkinson had very justly remarked that they did not yet know precisely what dental caries was, but he would ask did they know precisely what inflammation was? At the time Vorchow brought out his theory, they thought they knew all about it; but Cohnheim some years later threw down the monument from which inflammation derived its name. Yet it had retained this name in spite of the change of theories. His contention was that this term "caries," which they were accustomed to apply to a disease of the teeth, really signified quite another disease. He thought they ought not to keep a name which had been given by surgeons in former days when they did not know the difference that existed between the two processes. He did not care what name they gave to the dental mischief, but he thought they ought to substitute some other term instead of "caries."

After some further remarks from Dr. Atkinson, the subject dropped.

Mr. W. A. HUNT, of Yeovil, then showed a collection of models in type metal which he had prepared for working with celluloid. He observed that all who had experience in the construction of artificial teeth, would acknowledge the value of plaster in obtaining a good model of the mouth. It was found, however, that plaster

models were usually unable to bear the screw pressure necessary in working celluloid. Being struck by the simplicity of the process used by electro-stereotypers, he had made a number of experiments with type metal, and the result of these was shown in the collection which he now produced. He found that he was able to obtain an extremely accurate model of the mouth, and one which would stand any pressure required in the construction of celluloid plates.

Dr. PARMLY BROWN (Flushing, N.Y.) read a paper on "Contour Restoration of the Superior Central Incisors." It was illustrated by drawings and plaster models and by work done on teeth which had been extracted. He proposed to treat of one of the most common disasters that occur to the human teeth, one that was less successfully treated than any other form of caries, and was not generally dealt with in an artistic, scientific, and durable manner. Statistics taken by two dentists, living in places remote from each other, and extending over about ten years of daily practice, agreed in showing that the upper central incisors were more liable to decay than any of the other teeth. His own observations led him to believe the correctness of the statement.

He had heard it stated by a dentist living in the centre of New York, near White's depôt, where the best dental clinics had been held for fifteen years, that he did not believe in this building-up work, that none of it was done at his office, and that it was not durable. He had certainly himself seen many failures. The three principal causes of these were: (1) not knowing how to do the work, (2) not doing it thoroughly when knowing how, and (3) not using good gold and proper appliances. The great secret of success in building up an incisor with gold, was to deliver a great number of light and rapid blows in harmony with tooth structure and the living organism to be operated upon. He had proved that 100,000 blows could be struck on a gold filling in a single day by a hand mallet, but his endeavour had been to make the blows three times as rapid and one-third as heavy. Contour restoration had for more than fifteen years been particularly attractive to him, and he had built up on incisor teeth in the last twelve years upwards of three thousand of these fillings, with the gold running to the cutting edge of the teeth. The record said that less than thirty of these fillings had failed, as far as known. Careful examination of the cause of failures proved that the principle was a success, and that the failures were due to reasons



which could be avoided as a rule—such as improper anchorage, improper condensation of gold, imperfect margins, &c. He could call to remembrance many mouths where tooth restorations had stood upwards of ten years and not a defect had appeared—mouths of young and old, teeth with and without living pulps, teeth of good, bad, and indifferent structure. Suppose the failures to be ten times greater than ascertained, by some patients moving away or not reporting, this would only make a ten per cent. failure extending over twelve years, which would be as good as any class of fillings on the teeth. The pinnacle of success could only be obtained by thoroughness in all the details of the careful bevels, the thorough anchorages, the solid condensation of gold, the beautiful curves and artistic finish.

Dr. Brown then called attention to the diagrams, showing the various difficulties he had met with, and the points of detail to which attention should be paid in order to avoid failure. In conclusion, he combatted the opinion that gold work was hideous; it was quite as artistic as any kind of work in jewellery, and, moreover, the eye became accustomed to anything that was well and cleverly done and which served a useful purpose.

After a few remarks from Dr. Atkinson, Mr. HUTCHINSON observed that Dr. Brown had made rather a point of his plan of capping with oxyphosphate, in cases where the nerve was alive, and then building up the cutting edge of the tooth with gold, instead of destroying the nerve and pivoting; he thought, however, that it would be quite as easy to put on a porcelain crown as to build up with gold, and the nerve need not be destroyed in either case. He referred to a discussion which had been going on in recent numbers of the *Cosmos*, in which the general opinion seemed to be opposed to the making of such large gold stoppings in front teeth. Dr. Brown had, in his paper, advised them to imitate nature wherever possible, but his diagrams of the gold fillings which he had effected showed that his practice was not always in accordance with this principle. He thought that the use of porcelain crowns was much more in accordance with the principle of "imitating nature." Eminent chemists were now striving, and had, indeed, already succeeded in producing some very efficient phosphate stoppings which simulated very closely the natural colour of the teeth, and did not require very frequent replacing. But in cases where much of the crown of the tooth had been de-

stroyed, he thought that, whether the nerve was alive or dead, it was, as a rule, best to pivot.

Dr. ROSENTHAL said, all must admire the patience and skill with which these restorations were effected, but some regard must be paid to the patient who had to submit to these long operations, and as to the results, he could not help saying that he thought them repulsive in appearance. In cases of superficial caries affecting the incisors, such as was liable to occur after exhausting diseases, he preferred to fill with oxyphosphate, and cover this with a plate of porcelain; when this was neatly inserted it was almost impossible to detect it. In more advanced cases he preferred to pivot.

The discussion was continued, on the same side, by Mr. Grevers and by Mr. Walter Coffin.

Mr. STOCKEN called attention to the importance of constitutional treatment for the cure of many diseases of the teeth, and to the fact that this was not as generally made use of as it should be, owing to some amount of ignorance on the part of dental practitioners. He thought it was anomalous that they should be able to diagnose certain pathological conditions of the mouth and teeth, and yet, as was the case in many instances, be quite ignorant of the remedies which should be used to restore them to a healthy condition.

The PRESIDENT ruled that Mr. Stocken was out of order; although there was much truth in what he said, it was not the subject then under discussion.

Dr. BROWN, in reply, said it would take a lecture about ten hours long to describe all the numerous plans he had tried at different times for the restoration of carious incisors, including the insertion of enamel plates and pivoting on living and dead roots. Even to describe the devices which he now employed would be a long task, but a large number of them would be found in his paper when published, of which he had only read an abstract. Twenty years ago he had been of the same opinion as Mr. Hutchinson, and thought that phosphate fillings would supersede gold, but to advocate it at this time of day was to show yourself to be twenty years behind the age, and he, for one, was not going to be caught lagging in that way. Dr. Brown then proceeded to repeat, with much emphasis, his opinions that gold contour work on front teeth was not repulsive in appearance, but rather something to be proud of as an interesting and valuable work of art.

Mr. WALTER COFFIN suggested to Dr. Brown that in an assembly of that character, it would be more becoming in him to express his opinions with somewhat less positiveness and dogmatism—a remark which was received by the Section with some expressions of approval.

The business of the Section having been thus concluded, the PRESIDENT delivered his final address, which appeared in our issue for August 15th, and closed the Session.

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### Odontological Society of Great Britain.

THE usual monthly meeting of the Society took place on the 5th inst., at 40, Leicester Square. THOS. ARNOLD ROGERS, Esq., President, in the chair.

Mr. David Hepburn, of Edinburgh, was at the suggestion of the Council, unanimously elected an Honorary Member of the Society, and Messrs. Roberts and Woodruffe were elected to audit the Treasurer's accounts for the year.

Mr. GEORGE PEDLEY showed a drop-bottle of his own contrivance and also a "tell-tale" for gas cylinders, which would show when the gas was properly turned off and thus guard against accidental waste. He exhibited also a first upper molar to the root of which a rough piece of bone was attached. Mr. Pedley noticed this unusual addition directly the tooth was extracted and at once concluded that it was a piece of the floor of the antrum. On passing a probe into the alveolus he found that there was, in fact, a free opening into that cavity. When the patient returned after three days the opening was found to be smaller, and a week later it had entirely closed without giving rise to any bad symptoms.

Mr. W. E. HARDING, of Shrewsbury, related the case of a lady who came to him on account of severe pain in a lower molar. Finding the pulp exposed he applied very carefully a minute portion of Baldock's nerve-killing paste, covering it with cotton wool and sandarach. Next day her doctor called upon him and enquired whether he had not been using arsenic to the patient, since she had symptoms of arsenical poisoning, viz., acute gastritis and a rash. A remarkable feature in the case was that she had suffered in a similar manner three times previously, the poison having been applied once before by a dentist and twice prescribed by medical practitioners. She was ill on this occasion for about a fortnight, although the dressing was allowed to remain in the tooth only a very few hours;

the rash resembled measles, but was slightly raised and was followed by desquamation. Although the cavity was close to the gum, this was not affected in the least. When the patient returned, the nerve was found to be completely destroyed and Mr. Harding filled the cavity without further trouble.

The PRESIDENT remarked that it was important that patients possessing such idiosyncrasies should mention them when they came to be treated: he had once nearly lost a patient from hæmorrhage owing to an omission of the sort, and any one discovering these peculiarities should always impress the necessity of mentioning them upon the patient.

The PRESIDENT then called upon Mr. Coleman to read his paper on "Economical Processes of preparing and administering Nitrous Oxide Gas."

After reminding his audience that from the time of the first introduction of nitrous oxide as an anæsthetic into this country, he had occupied himself in devising means for economising it, Mr. Coleman pointed out the importance of economical preparation and administration of the gas to charitable institutions and large consumers generally. The one item of nitrous oxide cost the Dental Hospital of London over £70 a year.

The usual method of preparation was by the decomposition of nitrate of ammonia by heat. One pound of the salt costing 1s. 4d. yielded about twenty gallons of gas, the cost of heat, purifying materials, apparatus and labour having to be added to the price of the material. Of the other methods of obtaining the gas, the only one which gave it pure enough for dental purposes was the action of dilute nitric acid on zinc. Gas thus obtained was contaminated with some of the higher oxides of nitrogen, but the amount of these could be diminished by keeping the flask containing the zinc and acid cool, and they could be easily removed by a proper arrangement of wash-bottles. As a plan for making nitrous oxide alone this method would be extravagant, since nitric acid and zinc to the value of 1s. 4d. would only yield six gallons of gas; but by treating the residual nitrate of zinc with sulphuric acid the nitric acid could be recovered and sulphate of zinc obtained, which was a well-known article of commerce, selling at 35s. per cwt. By making this salt the main object of the manufacture he believed that the gas could be obtained as a by-product without cost, and might probably be sold in the liquid form at from 1d. to 1½d. per gallon.

Passing on to the second part of his subject, viz., economy in



administration, Mr. Coleman referred to the earlier attempts which had been made by himself and others to save and purify the expired gas by passing it over lime or caustic alkali. But it was soon found that, as anæsthesia approached, the amount of carbonic acid given off by the lungs became so much diminished that it might be ignored altogether, and therefore these complications were discarded. The plan now generally in use was then adopted of allowing the first portions of expired air and gas to escape and then, when most of the air had been removed from the lungs, closing the expiratory valve and making the patient respire the same portion of gas over and over again from a supplementary bag.

But he believed that if all the products of respiration were saved during the whole period of administration of the gas, the latter might be regained by conducting it into a closed vessel containing a certain quantity of water in which a little caustic potash had been dissolved. This would fix the carbonic acid, the nitrous oxide would be absorbed by the water and the remaining air might then be allowed to escape. Heat being applied, the nitrous oxide could be again driven off from the water and re-collected in another gasometer. The process was much facilitated by agitating the vessel containing the mixture of air, gas, and water, and by reducing the temperature of the latter as low as possible in the first instance. It would be attended by some expense, but might probably be found to pay in the case of large institutions and where circumstances were favourable for its application.

The PRESIDENT remarked that Mr. Coleman was so well known to be thoroughly master of the subject of anæsthetics, that he felt sure the suggestions he had made would command attention. With regard to the process for making the gas, he would remind Mr. Coleman that it was very rare to find zinc pure; it frequently contained arsenic, and if this was driven over with the gas, it might prove a dangerous impurity.

Mr. STOCKEN thought that Mr. Coleman had scarcely made sufficient allowance for the cost of labour in his somewhat complicated process; and also called attention to the fact that zinc was a metal that fluctuated a good deal in price, and any extra demand for it might increase this considerably.

Mr. BRAINE and Dr. STERNFORD made some observations with reference to the deaths which had occurred under nitrous oxide, to which Mr. Coleman had incidentally referred in his paper. The former spoke highly of the value of nitrite of amyl in such cases.

Mr. CUNNINGHAM, of Wisbech, gave an amusing description of his early experiences in the manufacture of gas. He thought that all Dental students should receive some practical instruction in the process. No doubt, it was generally cheaper to buy it, but it was not always easy to get a regular supply, and he now made his own with but little trouble.

Mr. COLEMAN replied that arsenic, if present, was very easily got rid of by a proper arrangement of wash-bottles. He thought a fall in the price of sulphate of zinc more likely to follow the adoption of his process than a rise in the price of the metal. It could, however, only be profitably carried out on a large scale and on strictly commercial principles. So also the question of saving and re-purifying the expired gas was one which affected large institutions solely, and not private consumers, but he had great hopes that this also might in time be brought into practical operation.

The usual vote of thanks having been given to Messrs. Coleman, Harding, and Pedley for their communications, the meeting was adjourned.

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### Odonto-Chirurgical Society.

At the Ordinary Meeting, held 10th November, 1881, JOHN SMITH, Esq., M.D., F.R.C.S., President, in the chair, David Hepburn, Esq., L.D.S.ENG., was, on the motion of the President, unanimously elected an Honorary Member.

Some proposed alterations of the Laws, and other business, having been considered and disposed of, the President delivered his Inaugural Address, which appears at page 615.

On the motion of Mr. CAMPBELL, a hearty vote of thanks was accorded to the President for his admirable address.

Mr. Whitehouse's paper, read March 11—"On the Endowment of Research in Dentistry"—was then taken up; and a conversation ensued, in which Messrs. Macleod, Campbell, Finlayson, Platt, Wilson, and the President took part—the conclusion arrived at being—"That endowment of Research was only useful in exceptional circumstances; that these circumstances did not, in the meantime, exist in the dental profession, but that the end desiderated by Mr. Whitehouse might possibly be gained by the formation of a Scientific Committee, whose duty it would be to investigate into the merits of 'filling materials' submitted to them, and

that from this Committee should come a honorary reward, which would stamp the best filling with an unbiassed and official imprimatur, and thus secure it the confident and hearty acceptance of the profession, which would be the best reward to an inventor or discoverer." The following gentlemen, viz., Messrs. Wilson, Finlayson, Matthew, and Macleod, were appointed a Committee to give practical effect to this finding, by drawing up a basis of scheme for the formation of such a Committee, the same to be submitted for the society's approval at the next meeting with a view to its adoption, and, if possible, securing the co-operation of the sister Society.

The Secretary then read "Notes on two Cases in Practice, a Suggestion regarding Oxy-Chlorides," by G. Rankine Brownlie, L.D.S., Eng., Glasgow. In one of these cases a cavity opening partly on the masticating surface, but chiefly towards the second bicuspid, and extending quite down to the level of the gum, was filled with white cement, and lasted without any signs of wear for over six years. The filling was made from a fresh packet of material and the blue shade of powder (letter E, Ash's Rock Cement, I believe). In another instance, two similar fillings were made, and after ten years one was in no way depreciated, but the tooth carrying the other was beginning to discolour; and, on cutting it out, the junction of tooth and filling was at one point defective. The blue shade of powder had been used in this case also, and my patient remembered that the bottle from which the filling was taken was full. The cavities were interstitial, upper central and lateral, and quite clear of the gum. With such cases before one, it seems as if careful research must sooner or later enable us to command, in a majority of cases, that which is at present an occasional and accidental occurrence. In the latter case, the result was *not* due to any idiosyncrasy of the patient, as similar fillings put in at a later date were clearly depreciated. The fact that fresh material seems to have been used in both cases (and possibly newly-made material), tempts me to believe that the cause of the early failure of oxy-chlorides is to be traced to some depreciation in the materials, through keeping them in the form of powder and liquid. I would respectfully suggest that those who manufacture for us be asked to make up the material in very much smaller parcels, using bottles of the very smallest size, and containing as much as would serve for, say two or three fillings only. Should this plan prove successful, no ope-

rator would grudge the increased charge to remunerate the makers for the extra trouble the proceeding would entail. These small quantities could be made up in dozens; and if kept sealed and dark till wanted, I verily believe that early failure of oxy-chloride as a filling would be much less common.

Mr. FINLAYSON asked permission to introduce a young lady twenty-five years of age, from whose upper jaw Mr. Annandale had removed a hard osseous mass, which had caused considerable enlargement of the cheek, and consequent disfigurement of the face; the growth had been going on gradually for twelve years, and had not at any time caused any pain to speak of—the patient's attention being first drawn to the size of the right cheek by her friends. Five months since it was determined to remove it, and Mr. Annandale did so successfully, using the chisel and mallet. The operation being conducted through the oral cavity, no external wound was caused; and the result is quite satisfactory. The young lady was then introduced, and an interesting comparison instituted between the casts taken before the operation and the present aspect of the face.

He also brought before the meeting a very remarkable odontome (in section), which he had obtained on loan for their inspection from Mr. Annandale. The tumour had been removed from the jaw of a young woman, in 1873; and the Professor had published a paper descriptive of the case in the *Edinburgh Medical Journal* for that year; its size and weight are as follows:—

Greatest Length	..	..	..	1½ inches.
„ Breadth	..	..	..	1¼ „
„ Thickness	..	..	..	⅞ inch.
Weight	..	..	..	300 grains.

Mr. WILSON exhibited the skull of the Bandicoot of India (*Mus giganteus*), and drew the attention of the members to the enormous development of the sockets of the lower incisors.

He also exhibited two inferior Maxillæ of the common rat—one full grown, the other comparatively young—which, he thought, illustrated very beautifully the growth or development of the jaws, and deduced from a comparison between them some objections to Mr. Coleman's theory of the interstitial growth of the Maxillary bones, as enunciated in his recent work on Dental Surgery and Pathology, which was, he thought, based on a too exclusive consideration of human anatomy, or, to speak more correctly, pathology.



Mr. G. W. WATSON exhibited two very interesting pathological specimens of teeth extracted by Mr. D. Marshall, of Stirling, and presented to the Museum—one was a second or third right upper molar, carious on its crown, the general appearance of which is very extraordinary. The whole of the roots are united by cementum, the mass of the tissue being largest at the radical extremities, and exceeding considerably in size that of the crown of the tooth, making its extraction a matter of some difficulty. Numerous canals perforate the cementum, which has evidently been very vascular.

The SECRETARY, on behalf of Mr. Huet, presented to the Museum the casts of a very interesting case of enlargement of the maxillary tuberosities.

The meeting was then adjourned.

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### Midland Counties Branch.

MEMBERS or Associates who are willing to furnish papers or casual communications for the next Annual Meeting, are invited to send intimation of the same to the Secretary,

W. H. WAITE,  
10, Oxford Street,  
Liverpool.

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### Appointment.

THOMAS WORMALD, L.D.S.I., has been appointed Honorary Dental Surgeon to the Oldham Infirmary.

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### London Dental Hospital. National Dental Hospital.

WE are compelled to postpone our report of the dinners held in connection with these institutions until a future number, in consequence of the pressure upon our space in the present issue, incident to the completion of the volume for the year 1881.

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### TO CORRESPONDENTS.

NOTE.—ANONYMOUS letters directed to the Secretary of the Association will receive no attention.

P.O.O. must be accompanied by Letters of Advice.

Communications intended for the Editors should be addressed to them at 22, Grosvenor Street, Grosvenor Square.

Subscriptions to the Treasurer, 36, Sackville Street.

Advertisements to GEORGE BUTCHER, 4, Crane Court, Fleet Street, E.C.













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